BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

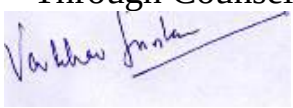
O.A. No.693/2023

In the matter of:

News Item appearing in Deccan Herald dated 24.10.2023 titled "Pollution Control Boards are the weak link".

INDEX

HPSPCB
Through Counsel



Place: Shimla, H.P.
Dated: 22.12.2025

Vaibhav Srivastava
(Advocate)

5115

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL, PRINCIPAL BENCH, AT NEW DELHI

O.A. No.693/2023

In the matter of:

News Item appearing in Deccan Herald dated 24.10.2023 titled "Pollution Control Boards are the weak link".

FURTHER PROGRESS/ STAUS REPORT BY WAY OF AFFIDAVIT ON BEHALF OF H.P. STATE POLLUTION CONTROL BOARD (HPSPCB) IN COMPLIANCE TO ORDER DATED 14.10.2025.

I, Dr. Parveen Gupta, S/o Sh. B.D. Gupta aged about 57 years, at present working as Member Secretary, H.P. State Pollution Control Board at Shimla, Himachal Pradesh, do hereby solemnly declare and affirm on oath as under:-

1. That the present matter has been registered suo-moto wherein, the Hon'ble NGT is considering the issue of infrastructure, resources capacity and existing staff strength of State Pollution Control Boards (SPCBs)/Pollution Control Committees(PCCs).

ATTESTED
Oath Commi

Member Secretary,
HP State Pollution Control
Shimla

2. That in continuation of the previous Affidavit dated 01.01.2025 filed by HPSPCB in this matter, the further progress/status report of HPSPCB in terms of the directions of this Hon'ble Tribunal is submitted hereunder.

3. That regarding the issue of filling up of vacant sanctioned posts, the details of sanctioned strength and filled up vacancies of HPSPCB is tabulated (as per the Performa circulated by CPCB) as follows:-

S. N.	Category of Post	Status of Sanctioned Posts in numbers			Details of vacancies in number as on 30.11.2025	
		Sanctioned	Filled Posts as on 30.11.25	Vacancy as on 30.11.25		
1	Scientific	104	54	50	a) Direct	26
					b) Promotion	24
					c) Deputation	0
2	Engineering	79	43	36	a) Direct*	26
					b) Promotion	10
					c) Deputation	0
3	Administration	192	144	48	a) Direct**	44
					b) Promotion	4
					c) Deputation	0
	Total.	**375**	**241**	**134**	**Total direct vacancies**	**96**
					Total promotional vacancies	**38**

*One Asstt. Environmental Engineer is on secondment with National Authority Chemical Weapons Convention, GOI, New Delhi.

**One Data Entry Operator (ministerial staff) is on secondment with HP State Electricity Board.

ATTESTED
Oath Commissioner

Member Secretary,
HP State Pollution Control
Shimla

Therefore, it is submitted that total sanctioned posts of HPSPCB is 375 posts, out of which 241 posts have been filled up and 134 posts are vacant at present. It is submitted that out of these 134 vacancies; 96 are direct vacancies (to be filled up by recruitment process) and 38 are promotional vacancies.

That in previous Affidavit dated 01.01.2025 of HPSPCB, it was submitted that HPSPCB has sent requisitions/ communications to the recruitment agencies and the State government for recruitment for total 87 sanctioned posts (direct vacancies to be filled up by recruitment process) across Group A, B & C categories (24 posts of Group A & B and 63 posts of Group-C). The State Board has also sent communications to the recruitment agencies to complete the recruitment process at the earliest and also apprised them about the directions of the Hon'ble NGT and Hon'ble Supreme Court of India. (The communications sent by HPSPCB to the recruitment agencies/State government are annexed here as **Annexure-I collectively**).

It is submitted that since the filing of previous Affidavit dated 01.01.2025 of the HPSPCB, 18 more posts have been filled up in the Board and recruitment of 2 posts is under process.

Regarding the vacant promotional posts, it is submitted that promotion of 05 eligible candidates to the post of Sr.

ATTESTED

Member Secretary,
HP State Pollution Control
Shimla

Scientific Officer has been stayed by the Hon'ble High Court of H.P. regarding which HPSPCB has filed application in the court for vacation of stay. It is submitted that once the stay is vacated, promotion will be effected and the resultant vacancy will also be filled up accordingly. In addition, promotion to the post of Environmental Engineers is also held up due to court case. Further, against other remaining promotional posts, candidates in the feeder category do not fulfill the 'length of service' criteria and it is submitted that these promotional posts shall be filled up as soon as the candidates become eligible against their respective promotional posts.

4. That regarding the issue of strengthening of Laboratory infrastructure, it is submitted that in previous Affidavit dated 01.01.2025 of the HPSPCB, it was submitted that the H.P. State Pollution Control Board has one Central Laboratory at Parwanoo and 05 Regional Laboratories (total-6) at Shimla, Paonta, Dharamshala, Una, Parwanoo and Sundernagar in the State, out of which three laboratories were accredited from NABL (National Accreditation Board for Testing and Calibration Laboratories).

It is submitted that at present now total 05 Laboratories i.e. Central Laboratory at Parwanoo, Regional Laboratories at Shimla, Paonta, Una, and Sundernagar

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Oath Commissioner

Member Secretary,
HP State Pollution Control
Shimla

have attained NABL accreditation and only one Laboratory at Dharamshala is remaining to obtain NABL accreditation, which is also in the pipeline.

5. That with respect to the issue of notifying the laboratories under the Water Act, 1974 and the Air Act, 1981, it is submitted that all six Laboratories of HPSPCB have been recognised as the State Board Laboratories under Section 17(2) of the Water Act, 1974 and Section 17(2) of the Air Act, 1984. It is further submitted that in pursuance to the directions of Hon'ble NGT, the State Board vide letter dated 04.07.2024 and 21.12.2024 had requested the State Government to notify the "State Water Laboratories" under Section 52 of the Water Act, 1974 and "State Air Laboratories" under Section 28 of Air Act, 1981. Thereupon, the State Government vide Notification no. STE-A (3)3/2022 dated 09.01.2025 has mandated and notified the HPSPCB's Laboratory at Shimla as the "State Water Laboratory/ State Air Laboratory", which is now functional. (Copy of notification number STE-A (3)3/2022 dated 09.01.2025 is annexed as **Annexure-II**).

6. That in further compliance to the directions of Hon'ble NGT, the Laboratories infrastructure of HPSPCB (in the format circulated by CPCB) is annexed as **Annexure-III**. It is submitted that all the State Board's laboratories

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Oath Commissioner

Member Secretary,
HP State Pollution Control
Shimla

are equipped with adequate infrastructure/facilities for the analysis of industry-specific parameters and the State Board is in process of further upgradation of labs for the development of facilities for left out parameters as per Schedule-I of the Environment (Protection) Rules.

7. It is humbly submitted that the answering respondent is taking all necessary measures to strengthen infrastructure of the H.P. State Pollution Control Board and is committed to take action in furtherance of the remedial measures proposed by CPCB and the Hon'ble NGT.

Deponent
Member Secretary,
HP State Pollution Control
Shimla

Verification:

I, the above named deponent, do hereby solemnly affirm that the submission made above are true and correct to the best of my knowledge, information provided to me and I believe the same to be true.

Identified
Tarun Thakur
AAO, HPSPCB

Solemnly affirmed at Shimla, H.P. on this 22nd day of December, 2025.

Deponent
Member Secretary,
HP State Pollution Control
Shimla

ATTESTED
Oath Commis

Shimla
December 2025
22nd
Dr. Parveen Gupta
Tarun Thakur

22/12/2025
Advocate

22/12/2025
Note - All the cutting & adding have been attested by me

Annexure-I

Himachal Pradesh State Pollution Control Board
"Him Parivesh", Phase-III, New Shimla -171009
Phone No. 0177-2673766 & 2673032

No. PCB/666/Estt./Recruitment of JOA (IT)/2017-14300 **Dated:** 19/12/25

To

The Secretary
H.P. Rajya Chayan Aayog (HPRCA), Hamirpur.

Sub: Regarding filling up the various class-III posts advertised by the Erstwhile H. P. Staff Selection Commission, Hamirpur in various post codes, updation thereof.

Sir,

In continuation to this office letter No. PCB/666/Estt./ Recruitment of JOA (IT)/2017-14001-02 dated 29.11.2024 and letter of even file No. 16865-66 dated 24.01.2025 & No. 18403-05 dated 25.02.2025 **(copies enclosed)**, on the subjects cited above.

In this context, it is submitted that recruitment process for the following vacant posts in the HP State Pollution Control Board is still pending with the HPRCA:-

Sr. No.	Name of post for which requisition sent	No. of posts	Remarks
1.	Junior Scientific Assistant	08	
2.	Junior Environmental Engineer	14	
3.	Database Analyst	02	
4.	Junior Accountant	07	
5.	Data Entry Operator	03	
6.	Junior Office Assistant (IT)	06	Out of the 19 posts for which requisition was sent, 13 posts have been filled up as per recommendation received from your office vide letter No. HPSSC-C (2) – 21/21-179 dated 19.04.2025. Recommendation on remaining 06 posts is awaited.

It is, therefore, once again requested that the recruitment process for filling up of above posts in the Board may kindly be completed at the earliest.

Yours faithfully,

Signed by
Parveen Chander Gupta
Date: 18-12-2025 19:14:58

(Parveen Chander Gupta)
Member Secretary
HP State Pollution Control Board

Encl: As above.

Himachal Pradesh State Pollution Control Board
"Him Parivesh", Phase-III, New Shimla -171009
Phone No. 0177-2673766 & 2673032

No. PCB/666/Estt./Recruitment of JOA (IT)/2017- 14299 **Dated:** 19/12/2025

To

The Director
Directorate of Sainik Welfare,
Sainik Bhawan, Hamirpur,
District Hamirpur, H.P.-177001.

Sub: Requisition for recruitment of various categories of posts in H.P. State Pollution Control Board.

Sir,

In continuation to this office letter No. PCB/666/Estt./ Recruitment of JOA (IT)/2017-14003 dated 29.11.2024 **(Copy attached)**, on the subject cited above.

In this context, it is submitted that recruitment process and recommendation thereof for the following vacant posts in the HP State Pollution Control Board is still pending:-

Sr. No.	**Name of post for which recommendation is awaited**	**No. of posts**	**Category**	**Remarks**
1.	Data Entry Operator	01 (02-01)	SC (Ex-Servicemen)	One (UR) post filled up.
2.	Junior Office Assistant (IT)	01 (03-02)	SC (Ex-Servicemen)	Two (UR) posts filled up.
3.	Junior Accountant	01 (02-01)	SC (Ex-Servicemen)	One (UR) post filled up.
4.	Junior Scientific Assistant	02	UR (Ex-Servicemen) SC (Ex-Servicemen)	

It is further informed that on the recommendations received from your office vide letters dated 16.06.2025 & 11.09.2025 for engagement against two posts of Junior Environmental Engineer (UR & OBC category respectively), offers of engagement as Trainee Junior Environmental Engineer were issued to the nominated candidates, Sh. Anil Kumar and Sh. Gaurav Behl vide orders dated 25.11.2025. The recruitment process in r/o Sh. Anil Kumar is presently underway, whereas the other candidate, Sh. Gaurav Behl has refused to join on the

offered post. Therefore, it is, requested that the next suitable candidate be recommended for engagement to the post of Junior Environmental Engineer (OBC category) in the Board, however, a communication in this regard is also being issued separately.

It is, therefore, requested that the recruitment process for filling up of the above posts in the Board may be completed at the earliest, please.

Yours faithfully,

Signed by
Parveen Chander Gupta
Date: 18-12-2025 19:16:04

Encl: As above

(Parveen Chander Gupta)
Member Secretary
H.P. State Pollution Control Board

Regd.

Himachal Pradesh State Pollution Control Board
"Him Parivesh", Phase-III, New Shimla - 171009
Phone No. 0177-2673766 & 2673032

No. PCB/666/Estt./Recruitment of JOA(IT)/2017- **Dated:**

To

The Secretary
HP Rajya Chayan Aayog, Hamirpur.

Sub: Regarding filling up the various class-III posts advertised by the Erstwhile H. P. Staff Selection Commission, Hamirpur in various post codes, updation thereof.

Sir,

In continuation to this office letter No. PCB/666/Estt./ Recruitment of JOA (IT)/2017-14001-02 dated 29.11.2024 and letter of even file No. 16865-66 dated 24.01.2025, on the subject cited above.

In this context, as already apprised that the Hon'ble National Green Tribunal vide orders dated 11.09.2024 passed in Original application No. 693 / 2023 has directed to fill up the posts lying vacant latest by 30.04.2025. Further, above matter was again listed for hearing on 28.01.2025 before the Hon'ble National Green Tribunal and the Hon'ble Tribunal has directed to point out the orders of the Hon'ble Supreme Court passed in WP (C) No. 13029 / 1985 dated 27.08.2024 which required the States to fill up all the vacancies by 30.04.2025 to the concerned recruiting agency **(copy attached).**

In view of above, it is again requested that the recruitment process to fill up the posts in the State Board may be completed at the earliest keeping in view orders of the Hon'ble Courts referred to above.

Yours faithfully,

Encl: As above.

Sd/-
(Anil Joshi, IFS)
Member Secretary

Endst. No./As above/-18403-05 **Dated:** 25/02/25

Copy forwarded to:-

1. The Chief Secretary, to the Government of Himachal Pradesh (Department of Env., Sci. Tech. & Climate Change) for information please.
2. The Senior Law Officer, HPSPCB Head Office, Shimla w.r.t. U.O. Note No. HPSPCB/693/2023/17394-95 dated Nil for information please.

Signed by
Anil Joshi
Date: 25-02-2025 12:39:44

(Anil Joshi, IFS)
Member Secretary

Regd.

Himachal Pradesh State Pollution Control Board
"Him Parivesh", Phase-III, New Shimla -171009
Phone No. 0177-2673766 & 2673032

No. PCB/666/Estt./Recruitment of JOA(IT)/2017-18400-02 Dated: 25/02/25

To

The Director
Directorate of Sainik Welfare,
Sainik Bhawan, Hamirpur
Distt. Hamirpur, H.P.- 177001.

Sub: Requisition for recruitment of various categories of posts in H.P. State Pollution Control Board.

Sir,

In continuation to this office letter No. PCB/666/Estt./ Recruitment of JOA (IT)/2017-14003 dated 29.11.2024, on the subject cited above.

In this context, as already apprised that the Hon'ble National Green Tribunal vide orders dated 11.09.2024 passed in Original application No. 693 / 2023 has directed to fill up the posts lying vacant latest by 30.04.2025. Further, above matter was again listed for hearing on 28.01.2025 before the Hon'ble National Green Tribunal and the Hon'ble Tribunal has directed to point out the orders of the Hon'ble Supreme Court passed in WP (C) No. 13029 / 1985 dated 27.08.2024 which required the States to fill up all the vacancies by 30.04.2025 to the concerned recruiting agency **(copy attached)**.

In view of above, it is again requested that the recruitment process to fill up the posts in the State Board may be completed at the earliest keeping in view orders of the Hon'ble Courts referred to above.

Yours faithfully,

Encl: As above

Sd/-
(Anil Joshi, IFS)
Member Secretary

Endst. No./As above/- **Dated:**

Copy forwarded to:-

1. The Chief Secretary, to the Government of Himachal Pradesh (Department of Env., Sci. Tech. & Climate Change) for information please.
2. The Senior Law Officer, HPSPCB Head Office, Shimla w.r.t. U.O. Note No. HPSPCB/693/2023/17394-95 dated Nil for information please.

Signed by
Anil Joshi
(Anil Joshi, IFS)
Date: 25-02-2025 12:35:46
Member Secretary

Himachal Pradesh State Pollution Control Board
"Him Parivesh", Phase-III, New Shimla -171009
Phone No. 0177-2673766, 2673032

No. PCB/666/Estt./Recruitment of JOA(IT)/2017- 15238 **Dated:** 26-12-24

To

The Chief Secretary
to the Government of Himachal Pradesh,
(Department of (Env., Sci., Tech. & Climate Change))

Sub: Requisition for recruitment of various categories of posts (Class- III) in H.P. State Pollution Control Board.

Sir,

In continuation to this office letter No. PCB/ 666/Estt./ Recruitment of JOA (IT) / 2017- 14001-02 dated 29.11.2024 addressed to the Secretary, Himachal Pradesh Rajya Chayan Aayog, Hamirpur with a copy endorsed to your office, on the subject cited above.

In this context, it is submitted that in reference to the above letter, an email dated 04.12.2024 has been received from the Secretary, Himachal Pradesh Rajya Chayan Aayog (HPRCA) vide which it has informed that HPRCA is not accepting any requisition form right now from any Department /Org./ PSU/Board/Corporation etc. as the HPRCA is planning to introduce a single window system through its official website in near future for sending/accepting requisitions. The work is under process & will be completed in due course of time **(Copy attached).**

It is also apprised that the Hon'ble National Green Tribunal vide orders dated 11.09.2024 passed in Original Application No.693 / 2023 has directed to fill up the posts lying vacant latest by 30.04.2025 **(Copy attached).**

In light of the above, it is requested that the matter concerning the recruitment of various Class-III categories of posts in the HP State Pollution Control Board may be taken up with the Secretary, Himachal Pradesh Public Service Commission for recruitment as a special case.

Yours faithfully,

Signed by
Anil Joshi
Date: 19-12-2024 18:13:08

(Anil Joshi, IFS)
Member Secretary
H.P. State Pollution Control Board, Shimla

O/C

Gmail

Assistant Controller <achppcb@gmail.com>

Fwd: Requisition for recruitment of various categories of posts (Class-III) in H.P. State Pollution Control Board.

Finance Division <pcbfinanceofficer@gmail.com> Wed, Dec 4, 2024 at 4:00 PM
To: achppcb@gmail.com

---------- Forwarded message ---------
From: **HPRCA** <hp-rca@hp.gov.in>
Date: Wed, Dec 4, 2024 at 3:46 PM
Subject: Requisition for recruitment of various categories of posts (Class-III) in H.P. State Pollution Control Board.
To: <pcbfinanceofficer@gmail.com>

Sir,

It is in reference to your office letter No. PCB/666/Estt./Recruitment of JOA(IT)2017-14001-02 dated 03.12.2024 on the subject cited above and to say that the HPRCA is not accepting any requisition form right now from any Department/Org./PSU/Board/Corporation etc. as the HPRCA is planning to introduce a single window system through its official website in near future for sending/accepting requisitions. The work is under process & will be completed in due course of time.

With Regards,
Secretary,
HP Rajya Chayan Aayog,
Hamirpur, Himachal Pradesh

On file.
05/12/24
Sy20
05/12/24
Clerk-II

Himachal Pradesh State Pollution Control Board
"Him Parivesh", Phase-III, New Shimla -171009
Phone No. 0177-2673766, 2673032

No. PCB/661/Estt./Recruitment of AEE/18- 15280-201 **Dated:** 19-12-24

To

The Chief Secretary
to the Govt. of Himachal Pradesh
Department of Env., Sci., Tech., & Climate Change).

Sub: Requisition for recruitment of 08 (eight) vacant posts of Assistant Environmental Engineer (AEE).

Sir,

In continuation to this office Letter No. PCB/ 661/Estt./Recruitment of AEE/ 18-3329-30 dated 29.06.2024, your office letter No. STE-E(3)5/2023 dated 10.07.2024 & letter No. STE-E(3)5/2023 dated 07.10.2024, on the subject cited above.

In this context, it is submitted that the Recruitment & Promotion Rules for the post of Assistant Environmental Engineer have been published in the e-gazette (Rajptra). A copy of the same is enclosed herewith for information.

It is, therefore, requested that the matter regarding recruitment of Assistant Environmental Engineer in the H.P. State Pollution Control Board may be taken up with the Secretary, Himachal Pradesh Public Service Commission with further submission that the Hon'ble National Green Tribunal vide OA No. 693/2023 dated 11.09.2024 has directed the Board to complete the recruitment process by 30.04.2025 (copy enclosed).

Yours faithfully,

Encl: As above

Signed by
Anil Joshi
Date: 19-12-2024 16:37:00

(Anil Joshi, IFS)
Member Secretary
H.P. State Pollution Control Board, Shimla

Endst. No./ As above/- **dated:**

Copy forwarded to:

The Secretary, Himachal Pradesh Public Service Commission, Shimla-171001 w.r.t. this office letter No. PCB/661/Estt./Recruitment of AEE/18-3329-30 dated 29.06.2024 for information and necessary action please.

Sd/-
(Anil Joshi, IFS)
Member Secretary
H.P. State Pollution Control Board, Shimla

Himachal Pradesh State Pollution Control Board
"Him Parivesh", Phase-III, New Shimla -171009
Phone No. 0177-2673768, 2673032

No. PCB/666/Estt./Recruitment of JOA(IT)/2017- 14061-62 **Dated:** 29/11/24

To

The Secretary
Himachal Pradesh Rajya Chayan Aayog,
Hamirpur, H.P.-177001.

Sub: Requisition for recruitment of various categories of posts (Class- III) in H.P. State Pollution Control Board.

Sir,

Please refer to the subject cited as above.

In this context, it is submitted that requisition for filling up of vacant post of various Class-III categories existing in HP State Pollution Control Board as detailed below was sent to the erstwhile H.P. Staff Selection Commission, Hamirpur:-

Table- I

Sr. No.	Name of Post for which requisition sent	No. of Posts	Letter No. and date vide which requisition sent
1	Junior Scientific Assistant	08	No. PCB/680/Estt./ Recruitment of JSA/2018-6674 dated 17.08.2022
2	Junior Environmental Engineer	14	No. PCB/681/Estt./ Recruitment of JEE/2018-6721 dated 17.08.2022
3	Database Analyst	02	No. PCB/795/Estt./ Recruitment of DBA/2022-6675 dated 17.08.2022
4	Junior Accountant	07	No. PCB/662/Estt./ Recruitment of Jr. Accountant/ 2017- 6677 dated 17.08.2022
5	**Data Entry Operator**	03	No. PCB/664/Estt./ Recruitment of DEO/2017-6676 dated 17.08.2022
6	Junior Office Assistant (IT)	19	Letter No. PCB/666/Estt./ Recruitment of Jr. Office Assistant/2017-6722 dated 17.08.2022
Total		**53**	

It is submitted that that the functioning of the H.P. Staff Selection Commission was suspended by the Govt. of H.P., Department of Personnel (Appointment-II), vide Order No. PER(AP-B)-A(1)-1/2022 dated 26th

December, 2022 with immediate effect.

The Government of Himachal Pradesh, Department of Personnel (Appointment-II), vide letter No. PER(AP-B)-A(1)-1/2022 dated 29th March, 2023 further decided that the H.P. Public Service Commission would conduct the examinations for various Class-III posts of all the pending requisitions received by the erstwhile H.P. Staff Selection Commission, Hamirpur as per its own Rules of Business. It was further decided that pending requisitions at the erstwhile HPSSC, for Class- III posts/ service be sent to HPPSC online.

The Government of Himachal Pradesh, Department of Personnel (Appointment-II) vide Notification No. Per (AP-B) A (1)-1/ 2023 dated 30.09.2023 established the Himachal Pradesh Rajya Chayan Aayog (HPRCA) to make recommendation for initial appointment to Group-C services/ posts except certain cases as detailed in the ibid notification.

Further, in view of Government of Himachal Pradesh, Department of Personnel (Appointment-II) Notification No. Per (AP-B) A (3)-1 / 2024 dated 16.07.2024, the posts as detailed in Table- I are to be filled up through. H.P. Rajya Chayan Aayog.

It is also apprised that the Hon'ble National Green Tribunal vide orders dated 11.09.2024 in Original Application No. 693 / 2023 has directed to fill up the posts lying vacant latest by 30.04.2025 **(Copy attached).**

In view of above, it is requested that the recruitment process to fill up the posts as detailed in Table- I ibid in the Board may be completed at the earliest please. Copies of above letters alongwith requisition Form (HPSSC-I), approval of Service Committee for filling up the vacant posts and Recruitment and Promotion Rules of the post (s) are also enclosed herewith for information and further action please.

Yours faithfully,

Signed by
Anil Joshi
Date: 28-11-2024 15:50:29

(Anil Joshi, IFS)
Member Secretary

Encl: As above.

H.P. State Pollution Control Board, Shimla

Endst. No./ As above/- 14001-02 **Dated** 29/11/24

Copy forwarded to the Chief Secretary, (Deptt. of Env. ST &CC) to the Govt. of H.P. w.r.t. Letter No. STE-F (10) 2 /2016 dated 15.11.2023 for information please.

Sd/-
(Anil Joshi, IFS)
Member Secretary
H.P. State Pollution Control Board, Shimla

Himachal Pradesh State Pollution Control Board
"Him Parivesh", Phase-III, New Shimla-171009
Phone No. 0177-2673766, 2673032

Reminder-I

No. PCB/666/Estt./Recruitment of JOA(IT)/2017- 11003 **Dated** 29/11/24

To

The Director
Directorate of Sainik Welfare,
Sainik Bhawan, Hamirpur
Distt. Hamirpur, H.P. - 177001.

Sub: Requisition for recruitment of various categories of posts in H.P. State Pollution Control Board.

Sir,

Please refer to the subject cited as above.

In this context, it is submitted that requisition for filling up of vacant post of various categories existing in HP State Pollution Control Board was sent to your office as detailed below:-

Sr. No.	**Name of Post for which requisition sent**	**No. of Posts**	**Letter No. and date vide which requisition sent**	**Category**
1	Data Entry Operator	02	No. PCB/664/Estt./ Recruitment of DEO / 2017-6679 dated 17.08.2022	UR (Ex-Servicemen) - 01 SC (Ex-Servicemen) - 01
2	Junior Office Assistant (IT)	01 **(03-02)**	Letter No. PCB/666/Estt./ Recruitment of Jr. Office Assistant/2017-6724 dated 17.08.2022	SC (Ex-Servicemen) - 01 (Two posts UR-(Ex-Servicemen) already filled up against 03 requisitioned posts.)
3	Junior Accountant	01 **(02-01)**	No. PCB/662/Estt./ Recruitment of Jr. Accountant/ 2017-6678 dated 17.08.2022	SC (Ex-Servicemen) - 01 (One post UR-(Ex-Servicemen) already filled up against 02 requisitioned posts).
4	Junior Scientific Assistant	02	No. PCB/680/Estt./ Recruitment of JSA/2018-6680 dated 17.08.2022	UR (Ex-Servicemen) - 01 SC (Ex-Servicemen) - 01
5	Junior Environmental	01	No. PCB/681/Estt./ Recruitment of	UR (Ex-Servicemen) - 01

	Engineer		JEE/2018-6723 dated 17.08.2022	
		03	No. HPSPCB/ 681/Estt." Recruitment of JEE/ 18- 23243 dated 20.11.2018	UR (Ex-Servicemen) - 01 ST (Ex-Servicemen) - 01 OBC (Ex-Servicemen)- 01
Total		**10**		

It is also informed that candidature of 03 Ex- servicemen as sponsored vide your office Letter No. DSW Ex Cell- 97/ 2018/ 1399-1406 dated 15.09.2022 has already been rejected due non fulfilling essential qualification for the post of Junior Environmental Engineer prescribed under Recruitment and Promotion Rules of the post vide this office Letter No. No.PCB/681/Recruitment of JEE/- 12523-26 dated 15.09.2022 with a request to sponsor the candidates afresh.

It is also apprised that the Hon'ble National Green Tribunal vide orders dated 11.09.2024 in Original Application No. 693 / 2023 has directed to fill up the posts lying vacant latest by 30.04.2025 **(Copy attached).**

You are, therefore, again requested to complete the recruitment process for filling up of above posts in the Board at the earliest please. Copies of above references are also enclosed herewith for information please.

Encl:- As above.

Yours faithfully,

Signed by
Anil Joshi
Date: 28-11-2024 15:49:10

(Anil Joshi, IFS)
Member Secretary
H.P. State Pollution Control Board

O/C

Annexure-II

Government of Himachal Pradesh
Department of Environment, Sci. Tech. & Climate Change

No. STE-A(3)3/2022-loose Dated Shimla-2, 9th January, 2025.

NOTIFICATION

In exercise of the powers conferred under Section-52 (I)(b) of the Water (Prevention and Control of Pollution) Act, 1974 read with Rule 27 & 28 of the H.P. Water (Prevention and Control of Pollution) Rules, 1977 and powers conferred under Section-28 (I)(b) of the Air (Prevention and Control of Pollution) Act, 1981 read with Rule 33 & 34 of the H.P. Air (Prevention and Control of Pollution) Rules, 1983, the Governor of Himachal Pradesh is pleased to recognize the Regional Laboratory, Shimla established by the H. P. State Pollution Control Board as State Water and Air Laboratory (herein called as State Laboratory) to carry out the functions entrusted to it under the Water Act and Air Act ibid with immediate effects. The functions, the procedure for submission of sample(s) of water or sewage or trade effluent or air or emissions for analysis or tests and fees payable in respect of such report(s) shall be as per Annexure-I.

By Order

Prabodh Saxena
Chief Secretary to the
Government of Himachal Pradesh

End. No. As above Dated: Shimla-171002, the 09-01-2025.

Copy forwarded for information and necessary action to:-

1. The Private Secretaries to the Chief Secretary to the Govt. of H.P.
2. All the Administrative Secretaries to the Government of Himachal Pradesh.
3. All the Divisional Commissioners of Himachal Pradesh.
4. All Heads of Department of Himachal Pradesh.
5. All the Deputy Commissioners of Himachal Pradesh.
6. The Director (Environment, Science & Technology), Paryavarn Bhawan, Near U.S. Club Shimla-1.
7. The Member Secretary, HP State Pollution Control Board, Phase-III, New Shimla-9.
8. The Director Industries, Himachal Pradesh.

(Balwan Chand)
Addl. Secretary (Env. Sci.Tech.&CC) to the
Government of Himachal Pradesh
Phone No. 0177-2622286

Annexure-I

Functions of the State Laboratory

(a) The State Laboratory shall analyze any samples of water or sewage or trade effluent, collected as per Section-21 of the Water (Prevention and Control of Pollution) Act, 1981 and samples of air or emissions collected as per Section-26 of the Air (Prevention and Control of Pollution) Act, 1981 by the officer authorized under Section 21 of the Water Act, 1974 and Section-26 of the Air Act, 1981. The Analyst appointed by the State Govt. as per Section-53(2) of the Water Act, 1974 and Section-29(1) of the Air Act, 1981 shall submit the report(s) of findings thereof in Form XI of the Water Rules, 1977 and in Form-V of the Air Rules, 1983.

(b) Procedures for submission of sample(s)

The State Laboratory shall only receive the sample(s) for analysis from the officer(s) authorized and sample(s) taken in accordance with the procedure defined under Section-21 of the Water Act, 1974 and Section-26 of the Air Act, 1981.

(c) Government Analyst

As appointed by the State Govt. under Section-53(2) of the Water Act, 1974 and Section-29(1) of the Air Act, 1981.

(d) Analysis or Test Report

The Govt. Analyst shall submit the sample analysis or test(s) report(s) in Form XI of the Water Rules, 1977 and in Form-V of the Air Rules, 1983 to the concerned sample collecting authority and/or occupier.

(e) Analysis Fees

The cost incurred in getting any sample analyzed at the request of occupier shall be payable by such occupier to the State Laboratory as per rates notified by the Ministry of Environment, Forests & Climate Change, Govt. of India or the State Board, whichever is on higher side.

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Annexure-III

Note: It is requested to please ensure that each sheet is created separately for each laboratory and rename the sheet accordingly . For e.g. Central Laboratory, Regional Laboratory etc

LABORATORY ANALYTICAL FACILITIES

Name of the Board / Committee: HP State Pollution Control Board

PART I: Facility available for monitoring of environmental parameters:

S. No.	Parameters	Facilities Available (Yes / No)	If facility is not available, Specify Timeline for addition of this parameter. (in months)	Action Taken for addition of this parameter (Specification finalized / procurement initiated / work awarded / outsourced)
A. Sample Matrix / Group of Water and Wastewater				
(a) Physical Tests				
1	Temperature	Yes		
2	Colour	Yes		
3	pH	Yes		
4	Turbidity	Yes		
5	Conductivity	Yes		
6	Total Solids	Yes		
7	Total Dissolved Solids (TDS)	Yes		
8	Total Suspended Solids (TSS)	Yes		
(b) Inorganic Tests				

(i) General & Non-metallic				
1	Alkalinity	Yes		
2	Chloride	Yes		
3	Cyanide	No	30 months	Outsourced. Process Inititated for development of In-house Facility
4	Dissolved oxygen	Yes		
5	Nitrite nitrogen	Yes		
6	Nitrate nitrogen	Yes		
7	Ammonical nitrogen	Yes		
8	Fluoride	Yes		
9	Hardness (Total)	Yes		
10	Calcium	Yes		
11	Magnesium	Yes		
12	Phosphate	Yes		
13	Sulphate	Yes		
14	Sulphide	Yes		
15	Total Residual Chlorine (TRC)	Yes		
(ii) Trace Metals Tests				
1	Aluminium (Al)	Yes		
2	Arsenic (As) Total	Yes		
3	Barium	No	18 months	Outsourced. Process Inititated for development of In-house Facility
4	Boron	Yes		
5	Chromium (Cr) Hexavalent	Yes		
6	Chromium (Cr) Total	Yes		

7	Cadmium (Cd)	Yes		
8	Cobalt (Co)	Yes		
9	Copper (Cu)	Yes		
10	Iron (Fe)	Yes		
11	Lead (Pb)	Yes		
12	Manganese (Mn)	Yes		
13	Mercury (Hg)	Yes		
14	Nickel (Ni)	Yes		
15	Potassium (K)	Yes		
16	Sodium (Na)	Yes		
17	Vanadium (V)	No	18 months	Outsourced. Process Inititated for development of In-house Facility
18	Zinc (Zn)	Yes		
19	Selenium (Se)	Yes		
(c) Organics (General) and Trace Organics Tests				
1	Biological Oxygen Demand (BOD)	Yes		
2	Chemical oxygen demand (COD)	Yes		
3	Oil & Grease	Yes		
4	Phenolic Compounds as C6H5OH	Yes		
5	Benzopyrene	No	30 months	Outsourced. Process Inititated for development of In-house Facility
6	**Pesticides**			
6.a	**Organochlorine Pesticides (OCPs) Tests**			
i	Aldrin	No	30 months	Outsourced. Process Inititated for development of In-house Facility

ii	Alpha Endosulphan	No	30 months	Outsourced. Process Inititated for development of In-house Facility		
iii	p,p'-DDT	No	30 months	Outsourced. Process Inititated for development of In-house Facility		
iv	Alpha-HCH	No	30 months	Outsourced. Process Inititated for development of In-house Facility		
v	Beta HCH	No	30 months	Outsourced. Process Inititated for development of In-house Facility		
vi	Beta Endosulphan	No	30 months	Outsourced. Process Inititated for development of In-house Facility		
vii	Gama-HCH	No	30 months	Outsourced. Process Inititated for development of In-house Facility		
viii	o,p'-DDT	No	30 months	Outsourced. Process Inititated for development of In-house Facility		
ix	p,p'-DDE	No	30 months	Outsourced. Process Inititated for development of In-house Facility		
6.b	**Organophosphorus Pesticides (OPPs) Tests**					
i	Malathion	No	30 months	Outsourced. Process Inititated for development of In-house Facility		
ii	Methyl parathion	No	30 months	Outsourced. Process Inititated for development of In-house Facility		
iii	Chlorpyriphos	No	30 months	Outsourced. Process Inititated for development of In-house Facility		

iv	Dimethoate	No	30 months	Outsourced. Process Inititated for development of In-house Facility
v	Dieldrin	No	30 months	Outsourced. Process Inititated for development of In-house Facility
vi	Ethion	No	30 months	Outsourced. Process Inititated for development of In-house Facility
(d) Microbiological Tests				
1	Total Coliform	Yes		
2	Faecal Coliform	Yes		
3	E. Coli	Yes		
4	Faecal Streptococci	Yes		
(e) Toxicological Tests				
1	Bioassay method for evaluation of toxicity using fish (90% survival of fish after 96 hrs in 100% effluent)	Yes		
B. Sample Matrix / Group of Solid / Solid Waste				
(a) Soil / Sediment / Compost Tests				
1	Cation Exchange Capacity (CEC)	Yes		
2	Electrical Conductivity (EC)	Yes		
3	Organic carbon (Chemical Method)	Yes		
4	pH	Yes		
5	Soil moisture	Yes		
6	Total nitrogen	Yes		
7	Metals by digestion (As, Cd, Cr, Pb, Ni etc.)	Yes		
(b) Hazardous Waste (Liquid / Slurry / Sludge / Solid / Semi-Solid) Tests				

1	Corrosivity	No	18 Months	Process Inititated for development of Inhouse Facility		
2	Ignitability (Flash Point)	No	18 Months	Process Inititated for development of Inhouse Facility		
3	Loss on Drying at 1050C (% Moisture Content)	Yes				
4	Loss on Drying at 5500C (% Organic Content)	Yes				
5	pH	Yes				
6	Organic carbon/matter (Chemical Method)	Yes				
7	Calorific Value	No	18 Months	Process Inititated for development of Inhouse Facility		
8	Toxicity Characteristics leaching procedure (TCLP) Leachate and Metals in Leachate (As,Cd,Cr, Pb, Ni)	Yes				
C. Sample Matrix / Group of Analytes: Air						
(a) Ambient Air						
1	Nitrogen dioxide as NO2	Yes				
2	Sulphur dioxide (SO2)	Yes				
3	Particulate matter (PM10)	Yes				
4	Particulate matter (PM2.5)	Yes				
5	Carbon Monoxide	Yes				
6	Ozone	Yes				
7	Benzene	No	30 Months	Outsourced. Process Inititated for development of In-house Facility		
8	Ammonia	Yes				
9	Metals in Particulate Matter, Pb	Yes				

10	Metals in Particulate Matter, As	Yes		
11	Metals in Particulate Matter, Ni	Yes		
12	Particulate Benzo-a-Pyrene (BaP)	No	30 Months	Outsourced. Process Inititated for development of In-house Facility
(b) Stack Gas / Stationary Source Emission				
1	Particulate Matter	Yes		
2	Sulphur Dioxide	Yes		
3	Carbon Dioxide	Yes		
4	Carbon Monoxide (NDIR based Method)	Yes		
5	Temperature	Yes		
6	Moisture	Yes		
7	Oxygen	Yes		
8	Oxides of Nitrogen	Yes		
9	Halides (HCL/HF)	No	24 Months	Process will be intiated soon
(c) Noise Level				
1	Ambient Noise level measurement (20 to 140 dB)	Yes		
2	Source Noise Level Measurement (Industrial process, DG set- 20 to 140dB)	Yes		
(d) Meteorological Monitoring				
1	Ambient Temperature	Yes		
2	Wind direction	Yes		
3	Wind speed	Yes		
4	Relative Humidity	Yes		
5	Mixing Height	No		
Specific remarks, if any:				

PART II: Details of Laboratory Infrastructure (Instruments and Equipment)

S. No.	Name of Instrument / Equipments	Available Yes / No	If the Instrument / Equipment is not available, Specify Timeline for procurement of this instrument (in months)	Action Taken for procurement of this Instrument / Equipment (Specification finalized / procurement initiated / work awarded / outsourced)
A. List of Instruments / Equipment for Sampling of Water, Wastewater and Soil / Hazardous Wastes				
a) Mandatory Requirements				
1	Portable / Pen type pH meter / pH strip	Yes		
2	Portable Dissolved Oxygen Meter / Field Fixing using chemicals	Yes		
3	Electrical Conductivity meter pen type	No	24 Months	Process will be intiated soon
4	Flow meter / Physical flow measuring	No	24 Months	Process will be intiated soon
5	GPS / Mobile with GPS app	Yes		
6	Ice Box (2 nos.) (150 litre & 100 litre capacities)	Yes		
7	Thermometer	Yes		
8	Stainless steel bucket with nylon rope and mug	Yes		
9	Ground water level measuring device	No	24 Months	Process will be intiated soon

10	Scoop / shovel	Yes				
11	Auger / core sampler	No	24 Months	Process will be intiated soon		
b) Optional Requirements						
1	Bottom Sampler / Depth sampler	No	24 Months	Process will be intiated soon		
2	Chloroscope for residual chlorine	No	24 Months	Process will be intiated soon		
3	Vandorn or equivalent water sampler (Automatic sampler when composite sampling to be done)	No	24 Months	Process will be intiated soon		
4	Ekman Dredge	No	24 Months	Process will be intiated soon		
B. List of Instruments / Equipment for Sampling of Ambient Air and Source Emission monitoring						
a) Mandatory Requirements						
1	Fine dust samplers PM2.5 (*4 Nos)	Yes				
2	Respirable Dust Sampler PM 10 (* 4 Nos)	Yes				
3	High Volume Sampler (SPM) (4 Nos)	Yes				
4	Handy Sampler with set of glass impingers (*2 Nos)	Yes				
5	Low Volume Sampler (LVS)	No	24 Months	Process will be intiated soon		
6	Tedler bags different sizes	No	06 Months	Process will be intiated soon		
7	Meteorological tower (All in one telescopic Mast) with sensors comprising wind speed, wind direction, ambient temp., Relative humidity, Solar radiation, rainfall etc.	No	30 Months	Process will be intiated soon		
8	Nitrogen Cylinder portable	No	24 Months	Process will be intiated soon		
9	Activated Charcoal tubes/ Tenex	No	24 Months	Process will be intiated soon		
10	Barometer (Digital)	No	24 Months	Process will be intiated soon		

11	Isokinetic Stack Monitoring Kit complete with Stack monitoring instrument panel with inclined cum vertical manometer, Cold Box, Vacuum pump, Glass assembly impingers	Yes				
12	Modified S type Stainless steel Pitot tube (Standard length) with Assembly	Yes				
13	Monoblock type, rotary design vacuum pump	No	24 Months	Process will be intiated soon		
14	Orsat Apparatus	No	24 Months	Process will be intiated soon		
15	Source emission monitoring Impingers train set with spare impingers 100 ml & 225 ml capacity	No	24 Months	Process will be intiated soon		
16	Stainless steel heated Sampling Probes with thimble holders short and long	No	24 Months	Process will be intiated soon		
17	Flue Gas analyzer	No	24 Months	Process will be intiated soon		
18	Thermometer/ Thermocouple	Yes				
19	Calibrator for Noise Meters	Yes				
20	Digital Sound level (Noise) Metres	Yes				
21	Portable TOC Analyzer for emission monitoring.	No	24 Months	Process will be intiated soon		
22	Polyurethane Foam PUF Sampler	No	24 Months	Process will be intiated soon		
b) Optional Requirements						
1	Anemometer	No	Not Required			
2	Weather Monitoring system	No	Not Required			
3	Wind speed/wind direction monitor	Yes				

4	Continuous Ambient Air Monitoring System, Fixed	Yes				
5	Continuous PM10 Analyzer	No	Not Required			
6	Continuous Ambient Air Monitoring System, Mobile	No	Not Required			
7	Continuous PM2.5 analyzer	No	Not Required			
8	Ambient Nitrogen Oxides (NO-NO2-NOx Analyzer	No	Not Required			
9	Ambient Ozone Analyzer	No	Not Required			
10	Ambient BTEX Analyzer	No	Not Required			
11	Multipoint Gas Calibration system	No	Not Required			
12	Ambient Sulphur Dioxide analyzer	No	Not Required			
13	Ambient Carbon Monoxide & Carbon dioxide analyzer	No	Not Required			
14	Total Hydrocarbon analyzer	No	Not Required			
15	Ambient Ammonia analyzer	Yes				
16	Zero Gas Generator	Yes				
17	Synthetic Air Cylinder	No	Not Required			
18	Calibration Gas Cylinders, SO2, NO, CO, NH3B ,enzene and Toluene One each with stainless steel Regulators	No	Not Required			
19	Continuous emission monitoring equipment	No	Not Required			
20	19 inch Rack mounting system for air analyzers	No	Not Required			
21	Dry Gas Meter	No	Not Required			
22	Diesel Exhaust analyzer	No	Not Required			
23	Exhaust CO/HC analyzer with Sampling Probe	No	Not Required			

24	Automated Noise Monitoring System	No	Not Required		
25	Integrating Sound level meter	No	Not Required		
26	Continuous PM10& PM2.5 Monitoring Analyzer TEOM system	No	Not Required		
27	Top loading orifice kit for calibration of HVS	No	Not Required		
28	Permeation tubes (SO2, NO-NO2-NOx,NH3, BTX)	No	Not Required		
C. List of Equipment required for processing of Environmental Samples:					
a) Mandatory Requirements					
1	Accelerated Solvent Extraction (ASE) System	No	30 Months	Process Inititated for development of Inhouse Facility	
2	Ammonia distillation assembly/TKN Analyzer	Yes			
3	Analytical Balance 4/5 digit & 6 digit (Digital)	Yes			
4	Aquarium for Toxicity bioassay test with complete accessories (*4 Nos)	Yes			
5	Autoclave (*2 Nos)	Yes			
6	Bacteriological Incubators Stainless steel (*2 Nos)	Yes			
7	Bio safety cabinets	Yes			
8	BOD Incubators (2 nos.)	Yes			
9	Centrifuge	No	18 Months	Process Inititated for development of Inhouse Facility	
10	COD Digestion heated Blocks (2) with capacity 16 nos. or more	Yes			

11	Cyanide Distillation Assembly (3)	No	18 Months	Process Inititated for development of Inhouse Facility		
12	Deep Freezer- Capacity 500 litre	Yes				
13	Laboratory Ball Mill Grinder	No	30 Months	Process Inititated for development of Inhouse Facility		
14	Laboratory Grinder	Yes				
15	Laminar Flow bench for Microbiological analysis	Yes				
16	Magnetic Stirrer with heating system (*2 Nos)	Yes				
17	Mechanical Shaker	Yes				
18	Membrane Filtration assembly with vacuum pump (2 nos.)	Yes				
19	Microbial culture refrigerator	Yes				
20	Microwave Digester with 16 vessels/ Hot Plate	Yes				
21	Muffle Furnace (*1 Nos), Range 1200 C	Yes				
22	Phenol distillation assembly (3)	Yes				
23	Plate counter, Manual/Automatic	No	30 Months	Process Inititated for development of Inhouse Facility		
24	Digestion Chambers/ Fume hood	Yes				
25	Digital Thermometer & Humidity meter- All lab area	Yes				
26	Dispensers (Various capacities) up to 5, 10, 25 & 50 ml	Yes				
27	Filtration Assembly with vacuum pump	Yes				
28	Fluoride Distillation Assembly (3)	No	30 Months	Process Inititated for development of Inhouse Facility		

29	Arsenic / Fluoride Glass Distillation assemblies	No	30 Months	Process Inititated for development of Inhouse Facility		
30	Glass Double Distillation Assembly /Water Purification System	Yes				
31	Heating mantles (2 nos.)	Yes				
32	Hot plates (small, Medium and Large) (*2 nos.)	Yes				
33	Thermo Hygrometer	Yes				
34	Imhoff Cone	No	12 Months	Process Inititated for development of Inhouse Facility		
35	Top loading Precision Digital Balance (minimum detection 0.001mg/0.01 mg) with anti-vibration facility- 3 nos. i.e 4/5 Digit (2 nos), - 6 Digit (1 no)	Yes				
36	Refrigerators Big Size 300 litres or more, double door- 2 nos.	Yes				
37	Rotary Evaporator (Buchi type) with water recirculating chiller	No	30 Months	Process Inititated for development of Inhouse Facility		
38	Separating funnel shaker	No	30 Months	Process Inititated for development of Inhouse Facility		
39	Soxhlet Apparatus	No	30 Months	Process Inititated for development of Inhouse Facility		
40	Solid Phase Extraction (SPE) /SPME Extraction system	No	30 Months	Process Inititated for development of Inhouse Facility		
41	Thermometer (Alcohol)	Yes				
42	Dry & wet bulb Thermometer	Yes				

43	Toxicity characteristic leaching procedure (TCLP) Extractors (Zero head and Bottle)	Yes				
44	Ultra sonic water bath- Capacity 3 litre	No	30 Months	Process Inititated for development of Inhouse Facility		
45	Water Bath with temperature control (*2 Nos)	Yes				
46	Water Bath with temp. for mercury sample digestion- 20 BOD Bottles	No	30 Months	Process Inititated for development of Inhouse Facility		
D. Analytical Instruments at Environmental Laboratories						
a) Mandatory Requirements						
1	Atomic Absorption spectrometer (AAS)- Flame, Hydride & Graphite Tube Atomizer (GTA)	Yes				
2	Binocular Stereo Zoom Microscope	No	30 Months	Process Inititated for development of Inhouse Facility		
3	Bomb Calorimeter	No	30 Months	Process Inititated for development of Inhouse Facility		
4	BTX Analyzer with BTX calibrator	No	30 Months	Process Inititated for development of Inhouse Facility		
5	Colony counter	No	30 Months	Process Inititated for development of Inhouse Facility		
6	Conductivity meter- 2 nos.	Yes				
7	Environment conditioning chamber	No	30 Months	Process Inititated for development of Inhouse Facility		
8	Digital Burettes- 50 ml*2, 100 ml*2	No	30 Months	Process Inititated for development of Inhouse Facility		

9	Dissolved Oxygen Meter (Bench model)	No	30 Months	Process Inititated for development of Inhouse Facility		
10	Flame Photometer	Yes				
11	Flash Point Apparatus	No	30 Months	Process Inititated for development of Inhouse Facility		
12	Gas Chromatograph Mass Spectrometer	No	30 Months	Process Inititated for development of Inhouse Facility		
13	High Performance Liquid Chromatograph (HPLC)	No	30 Months	Process Inititated for development of Inhouse Facility		
14	Inductively Coupled Plasma (ICP) Spectrometer-OES	No	30 Months	Process Inititated for development of Inhouse Facility		
15	Ion Chromatograph Anion & Cations	No	30 Months	Process Inititated for development of Inhouse Facility		
16	Methane and Non Methane (NMHC) Analyzer	No	30 Months	Process Inititated for development of Inhouse Facility		
17	Microscope – 100x	Yes				
18	Microscope Binocular Research	No	30 Months	Process Inititated for development of Inhouse Facility		
19	CO (NDIR based) Analyzer	Yes				
20	Nephelometer (Turbidity Meter)	Yes				
21	pH-Meter with combined electrode (3 point)- 2 nos.	Yes				
22	Specific ion Analyzer with ion selective electrodes	No	30 Months	Process Inititated for development of Inhouse Facility		
23	Spectrophotometer Visible (Portable)	Yes				

24	TKN Analyzer semi-automatic with aluminum block digester	Yes		
25	UV-Vis Spectrophotometer	Yes		
26	Moisture Content Analyzer	No	30 Months	Process Inititated for development of Inhouse Facility
b) Optional Requirements				
1	Automatic Titration Assembly	No	30 Months	Process Inititated for development of Inhouse Facility
2	Carbon, Hydrogen, Nitrogen and Sulphur (CHNS) Elemental Analyzer	No	30 Months	Process Inititated for development of Inhouse Facility
3	EDXRF Analyzer/WDXRF Analyzer	No	30 Months	Process Inititated for development of Inhouse Facility
4	Fourier-transform infrared Spectrometer (FTIR)	No	30 Months	Process Inititated for development of Inhouse Facility
5	Flocculator (Jar testing apparatus)	No	30 Months	Process Inititated for development of Inhouse Facility
6	Toxic Gas Analyzer	No	30 Months	Process Inititated for development of Inhouse Facility
7	Organic Halogen (AOX/TOX) Analyzer	No	30 Months	Process Inititated for development of Inhouse Facility
8	TOC Analyzer	No	30 Months	Process Inititated for development of Inhouse Facility
9	High Resolution Mass Spectrometer (HRGC-HRMS)	No	30 Months	Process Inititated for development of Inhouse Facility
10	Inductively Coupled Plasma Mass (ICP-MS) Spectrometer	No	30 Months	Process Inititated for development of Inhouse Facility

	11	X Ray Fluorescence (XRF) Spectrometer (Portable)	No	30 Months	Process Inititated for development of Inhouse Facility		
	Specific remarks, if any:						

PART I: Facility available for monitoring of environmental parameters:

Parameters	Total Number of Parameters	Facility available for	Facility not available for	
A. Sample Matrix / Group of Water and Wastewater	**67**	**48**	**19**	**0**
(a) Physical Tests	8	8	0	**0**
(b) Inorganic Tests	**34**	**31**	**3**	
(i) General & Non-metallic	15	14	1	**0**
(ii) Trace Metals Tests	19	17	2	**0**
(c) Organics (General) and Trace Organics Tests	**20**	**4**	**16**	
Pesticides	15	0	15	**0**
Organochlorine Pesticides (OCPs) Tests	9	0	9	**0**
Organophosphorus Pesticides (OPPs) Tests	6	0	6	**0**
(d) Microbiological Tests	**4**	**4**	**0**	**0**
(e) Toxicological Tests	**1**	**1**	**0**	**0**

B. Sample Matrix / Group of Solid / Solid Waste	**15**	**12**	**3**	
(a) Soil / Sediment / Compost Tests	7	7	0	**0**
(b) Hazardous Waste (Liquid / Slurry / Sludge / Solid / Semi-Solid) Tests	8	5	3	**0**
C. Sample Matrix / Group of Analytes: Air	**28**	**24**	**4**	
(a) Ambient Air	12	10	2	**0**
(b) Stack Gas / Stationary Source Emission	9	8	1	**0**
(c) Noise Level	2	2	0	**0**
(d) Meteorological Monitoring	5	4	1	**0**
PART II: Details of Laboratory Infrastructure (Instruments and Equipment)				
Name of Instrument / Equipments	**Total Numbers**	**Number of Available**	**Number of Not Available**	
Total	**148**	**62**	**86**	**0**
A. List of Instruments / Equipment for Sampling of Water, Wastewater and Soil / Hazardous Wastes	**15**	**7**	**8**	
a) Mandatory Requirements	11	7	4	**0**
b) Optional Requirements	4	0	4	**0**
B. List of Instruments / Equipment for Sampling of Ambient Air and Source Emission monitoring	**50**	**13**	**37**	
a) Mandatory Requirements	22	9	13	**0**
b) Optional Requirements	28	4	24	**0**
C. List of Equipment required for processing of Environmental Samples:	**46**	**32**	**14**	
a) Mandatory Requirements	46	32	14	**0**
D. Analytical Instruments at Environmental Laboratories	**37**	**10**	**27**	
a) Mandatory Requirements	26	10	16	**0**
b) Optional Requirements	11	0	11	**0**

Note: It is requested to please ensure that each sheet is created separately for each laboratory and rename the sheet accordingly . For e.g. Central Laboratory, Regional Laboratory etc

LABORATORY ANALYTICAL FACILITIES

Name of the Board / Committee: HP State Pollution Control Board Regularoty Division

PART I: Facility available for monitoring of environmental parameters:

S. No.	Parameters	Facilities Available (Yes / No)	If facility is not available, Specify Timeline for addition of this parameter. (in months)	Action Taken for addition of this parameter (Specification finalized / procurement initiated / work awarded / outsourced)
A. Sample Matrix / Group of Water and Wastewater				
(a) Physical Tests				
1	Temperature			
2	Colour			
3	pH			
4	Turbidity			
5	Conductivity			
6	Total Solids			
7	Total Dissolved Solids (TDS)			
8	Total Suspended Solids (TSS)			
(b) Inorganic Tests				
(i) General & Non-metallic				
1	Alkalinity			
2	Chloride			
3	Cyanide			
4	Dissolved oxygen			
5	Nitrite nitrogen			
6	Nitrate nitrogen			
7	Ammonical nitrogen			
8	Fluoride			
9	Hardness (Total)			
10	Calcium			
11	Magnesium			
12	Phosphate			
13	Sulphate			
14	Sulphide			
15	Total Residual Chlorine (TRC)			
(ii) Trace Metals Tests				
1	Aluminium (Al)			
2	Arsenic (As) Total			
3	Barium			
4	Boron			

5	Chromium (Cr) Hexavalent			
6	Chromium (Cr) Total			
7	Cadmium (Cd)			
8	Cobalt (Co)			
9	Copper (Cu)			
10	Iron (Fe)			
11	Lead (Pb)			
12	Manganese (Mn)			
13	Mercury (Hg)			
14	Nickel (Ni)			
15	Potassium (K)			
16	Sodium (Na)			
17	Vanadium (V)			
18	Zinc (Zn)			
19	Selenium (Se)			
(c) Organics (General) and Trace Organics Tests				
1	Biological Oxygen Demand (BOD)			
2	Chemical oxygen demand (COD)			
3	Oil & Grease			
4	Phenolic Compounds as C6H5OH			
5	Benzopyrene			
6	**Pesticides**			
6.a	**Organochlorine Pesticides (OCPs) Tests**			
i	Aldrin			
ii	Alpha Endosulphan			
iii	p,p'-DDT			
iv	Alpha-HCH			
v	Beta HCH			
vi	Beta Endosulphan			
vii	Gama-HCH			
viii	o,p'-DDT			
ix	p,p'-DDE			
6.b	**Organophosphorus Pesticides (OPPs) Tests**			
i	Malathion			
ii	Methyl parathion			
iii	Chlorpyriphos			
iv	Dimethoate			
v	Dieldrin			
vi	Ethion			
(d) Microbiological Tests				
1	Total Coliform			
2	Faecal Coliform			
3	E. Coli			
4	Faecal Streptococci			
(e) Toxicological Tests				
1	Bioassay method for evaluation of toxicity using fish (90% survival of fish after 96 hrs in 100% effluent)			
B. Sample Matrix / Group of Solid / Solid Waste				
(a) Soil / Sediment / Compost Tests				
1	Cation Exchange Capacity (CEC)			

2	Electrical Conductivity (EC)			
3	Organic carbon (Chemical Method)			
4	pH			
5	Soil moisture			
6	Total nitrogen			
7	Metals by digestion (As, Cd, Cr, Pb, Ni etc.)			
(b) Hazardous Waste (Liquid / Slurry / Sludge / Solid / Semi-Solid) Tests				
1	Corrosivity			
2	Ignitability (Flash Point)			
3	Loss on Drying at 1050C (% Moisture Content)			
4	Loss on Drying at 5500C (% Organic Content)			
5	pH			
6	Organic carbon/matter (Chemical Method)			
7	Calorific Value			
8	Toxicity Characteristics leaching procedure (TCLP) Leachate and Metals in Leachate (As,Cd,Cr, Pb, Ni)			
C. Sample Matrix / Group of Analytes: Air				
(a) Ambient Air				
1	Nitrogen dioxide as NO2			
2	Sulphur dioxide (SO2)			
3	Particulate matter (PM10)			
4	Particulate matter (PM2.5)			
5	Carbon Monoxide			
6	Ozone			
7	Benzene			
8	Ammonia			
9	Metals in Particulate Matter, Pb			
10	Metals in Particulate Matter, As			
11	Metals in Particulate Matter, Ni			
12	Particulate Benzo-a-Pyrene (BaP)			
(b) Stack Gas / Stationary Source Emission				
1	Particulate Matter	Yes		
2	Sulphur Dioxide	Yes		
3	Carbon Dioxide	Yes		
4	Carbon Monoxide (NDIR based Method)	Yes		
5	Temperature	Yes		
6	Moisture	Yes		
7	Oxygen	Yes		
8	Oxides of Nitrogen	Yes		
9	Halides (HCL/HF)	No	24 Months	Process will be intiated soon
(c) Noise Level				
1	Ambient Noise level measurement (20 to 140 dB)	Yes		
2	Source Noise Level Measurement (Industrial process, DG set- 20 to 140dB)	Yes		

(d) Meteorological Monitoring				
1	Ambient Temperature			
2	Wind direction			
3	Wind speed			
4	Relative Humidity			
5	Mixing Height			

Specific remarks, if any:

PART II: Details of Laboratory Infrastructure (Instruments and Equipment)

S. No.	Name of Instrument / Equipments	Available Yes / No	If the Instrument / Equipment is not available, Specify Timeline for procurement of this instrument (in months)	Action Taken for procurement of this Instrument / Equipment (Specification finalized / procurement initiated / work awarded / outsourced)
A. List of Instruments / Equipment for Sampling of Water, Wastewater and Soil / Hazardous Wastes				
a) Mandatory Requirements				
1	Portable / Pen type pH meter / pH strip	Yes		
2	Portable Dissolved Oxygen Meter / Field Fixing using chemicals	Yes		
3	Electrical Conductivity meter pen type	No	24 Months	Process will be intiated soon
4	Flow meter / Physical flow measuring	No	24 Months	Process will be intiated soon
5	GPS / Mobile with GPS app	Yes		
6	Ice Box (2 nos.) (150 litre & 100 litre capacities)	Yes		
7	Thermometer	Yes		
8	Stainless steel bucket with nylon rope and mug	Yes		
9	Ground water level measuring device	No	24 Months	Process will be intiated soon
10	Scoop / shovel	Yes		
11	Auger / core sampler	No	24 Months	Process will be intiated soon
b) Optional Requirements				
1	Bottom Sampler / Depth sampler	No	24 Months	Process will be intiated soon
2	Chloroscope for residual chlorine	No	24 Months	Process will be intiated soon
3	Vandorn or equivalent water sampler (Automatic sampler when composite sampling to be done)	No	24 Months	Process will be intiated soon
4	Ekman Dredge	No	24 Months	Process will be intiated soon
B. List of Instruments / Equipment for Sampling of Ambient Air and Source Emission monitoring				
a) Mandatory Requirements				
1	Fine dust samplers PM2.5 (*4 Nos)	Yes		
2	Respirable Dust Sampler PM 10 (* 4 Nos)	Yes		
3	High Volume Sampler (SPM) (4 Nos)	Yes		
4	Handy Sampler with set of glass impingers (*2 Nos)	Yes		
5	Low Volume Sampler (LVS)	No	24 Months	Process will be intiated soon
6	Tedler bags different sizes	No	06 Months	Process will be intiated soon

7	Meteorological tower (All in one telescopic Mast) with sensors comprising wind speed, wind direction, ambient temp., Relative humidity, Solar radiation, rainfall etc.	No	30 Months	Process will be intiated soon
8	Nitrogen Cylinder portable	No	24 Months	Process will be intiated soon
9	Activated Charcoal tubes/ Tenex	No	24 Months	Process will be intiated soon
10	Barometer (Digital)	No	24 Months	Process will be intiated soon
11	Isokinetic Stack Monitoring Kit complete with Stack monitoring instrument panel with inclined cum vertical manometer, Cold Box, Vacuum pump, Glass assembly impingers	Yes		
12	Modified S type Stainless steel Pitot tube (Standard length) with Assembly	Yes		
13	Monoblock type, rotary design vacuum pump	No	24 Months	Process will be intiated soon
14	Orsat Apparatus	No	24 Months	Process will be intiated soon
15	Source emission monitoring Impingers train set with spare impingers 100 ml & 225 ml capacity	No	24 Months	Process will be intiated soon
16	Stainless steel heated Sampling Probes with thimble holders short and long	No	24 Months	Process will be intiated soon
17	Flue Gas analyzer	No	24 Months	Process will be intiated soon
18	Thermometer/ Thermocouple	Yes		
19	Calibrator for Noise Meters	Yes		
20	Digital Sound level (Noise) Metres	Yes		
21	Portable TOC Analyzer for emission monitoring.	No	24 Months	Process will be intiated soon
22	Polyurethane Foam PUF Sampler	No	24 Months	Process will be intiated soon
b) Optional Requirements				
1	Anemometer	No	Not Required	
2	Weather Monitoring system	No	Not Required	
3	Wind speed/wind direction monitor	Yes		
4	Continuous Ambient Air Monitoring System, Fixed	Yes		
5	Continuous PM10 Analyzer	No	Not Required	
6	Continuous Ambient Air Monitoring System, Mobile	No	Not Required	
7	Continuous PM2.5 analyzer	No	Not Required	
8	Ambient Nitrogen Oxides (NO-NO2-NOx Analyzer	No	Not Required	
9	Ambient Ozone Analyzer	No	Not Required	
10	Ambient BTEX Analyzer	No	Not Required	
11	Multipoint Gas Calibration system	No	Not Required	
12	Ambient Sulphur Dioxide analyzer	No	Not Required	
13	Ambient Carbon Monoxide & Carbon dioxide analyzer	No	Not Required	
14	Total Hydrocarbon analyzer	No	Not Required	
15	Ambient Ammonia analyzer	Yes		
16	Zero Gas Generator	Yes		
17	Synthetic Air Cylinder	No	Not Required	

18	Calibration Gas Cylinders, SO2, NO, CO, NH3B ,enzene and Toluene One each with stainless steel Regulators	No	Not Required	
19	Continuous emission monitoring equipment	No	Not Required	
20	19 inch Rack mounting system for air analyzers	No	Not Required	
21	Dry Gas Meter	No	Not Required	
22	Diesel Exhaust analyzer	No	Not Required	
23	Exhaust CO/HC analyzer with Sampling Probe	No	Not Required	
24	Automated Noise Monitoring System	No	Not Required	
25	Integrating Sound level meter	No	Not Required	
26	Continuous PM10& PM2.5 Monitoring Analyzer TEOM system	No	Not Required	
27	Top loading orifice kit for calibration of HVS	No	Not Required	
28	Permeation tubes (SO2, NO-NO2-NOx, NH3, BTX)	No	Not Required	
C. List of Equipment required for processing of Environmental Samples:				
a) Mandatory Requirements				
1	Accelerated Solvent Extraction (ASE) System			
2	Ammonia distillation assembly/TKN Analyzer			
3	Analytical Balance 4/5 digit & 6 digit (Digital)			
4	Aquarium for Toxicity bioassay test with complete accessories (*4 Nos)			
5	Autoclave (*2 Nos)			
6	Bacteriological Incubators Stainless steel (*2 Nos)			
7	Bio safety cabinets			
8	BOD Incubators (2 nos.)			
9	Centrifuge			
10	COD Digestion heated Blocks (2) with capacity 16 nos. or more			
11	Cyanide Distillation Assembly (3)			
12	Deep Freezer- Capacity 500 litre			
13	Laboratory Ball Mill Grinder			
14	Laboratory Grinder			
15	Laminar Flow bench for Microbiological analysis			
16	Magnetic Stirrer with heating system (*2 Nos)			
17	Mechanical Shaker			
18	Membrane Filtration assembly with vacuum pump (2 nos.)			
19	Microbial culture refrigerator			
20	Microwave Digester with 16 vessels/ Hot Plate			
21	Muffle Furnace (*1 Nos), Range 1200 C			
22	Phenol distillation assembly (3)			
23	Plate counter, Manual/Automatic			

24	Digestion Chambers/ Fume hood			
25	Digital Thermometer & Humidity meter- All lab area			
26	Dispensers (Various capacities) up to 5, 10, 25 & 50 ml			
27	Filtration Assembly with vacuum pump			
28	Fluoride Distillation Assembly (3)			
29	Arsenic / Fluoride Glass Distillation assemblies			
30	Glass Double Distillation Assembly /Water Purification System			
31	Heating mantles (2 nos.)			
32	Hot plates (small, Medium and Large) (*2 nos.)			
33	Thermo Hygrometer			
34	Imhoff Cone			
35	Top loading Precision Digital Balance (minimum detection 0.001mg/0.01 mg) with anti-vibration facility- 3 nos. i.e 4/5 Digit (2 nos), - 6 Digit (1 no)			
36	Refrigerators Big Size 300 litres or more, double door- 2 nos.			
37	Rotary Evaporator (Buchi type) with water recirculating chiller			
38	Separating funnel shaker			
39	Soxhlet Apparatus			
40	Solid Phase Extraction (SPE) /SPME Extraction system			
41	Thermometer (Alcohol)			
42	Dry & wet bulb Thermometer			
43	Toxicity characteristic leaching procedure (TCLP) Extractors (Zero head and Bottle)			
44	Ultra sonic water bath- Capacity 3 litre			
45	Water Bath with temperature control (*2 Nos)			
46	Water Bath with temp. for mercury sample digestion- 20 BOD Bottles			
D. Analytical Instruments at Environmental Laboratories				
a) Mandatory Requirements				
1	Atomic Absorption spectrometer (AAS) - Flame, Hydride & Graphite Tube Atomizer (GTA)			
2	Binocular Stereo Zoom Microscope			
3	Bomb Calorimeter			
4	BTX Analyzer with BTX calibrator			
5	Colony counter			
6	Conductivity meter- 2 nos.			
7	Environment conditioning chamber			
8	Digital Burettes- 50 ml*2, 100 ml*2			
9	Dissolved Oxygen Meter (Bench model)			
10	Flame Photometer			
11	Flash Point Apparatus			
12	Gas Chromatograph Mass Spectrometer			

13	High Performance Liquid Chromatograph (HPLC)			
14	Inductively Coupled Plasma (ICP) Spectrometer-OES			
15	Ion Chromatograph Anion & Cations			
16	Methane and Non Methane (NMHC) Analyzer			
17	Microscope – 100x			
18	Microscope Binocular Research			
19	CO (NDIR based) Analyzer			
20	Nephelometer (Turbidity Meter)			
21	pH-Meter with combined electrode (3 point)- 2 nos.			
22	Specific ion Analyzer with ion selective electrodes			
23	Spectrophotometer Visible (Portable)			
24	TKN Analyzer semi-automatic with aluminum block digester			
25	UV-Vis Spectrophotometer			
26	Moisture Content Analyzer			
b) Optional Requirements				
1	Automatic Titration Assembly			
2	Carbon, Hydrogen, Nitrogen and Sulphur (CHNS) Elemental Analyzer			
3	EDXRF Analyzer/WDXRF Analyzer			
4	Fourier-transform infrared Spectrometer (FTIR)			
5	Flocculator (Jar testing apparatus)			
6	Toxic Gas Analyzer			
7	Organic Halogen (AOX/TOX) Analyzer			
8	TOC Analyzer			
9	High Resolution Mass Spectrometer (HRGC-HRMS)			
10	Inductively Coupled Plasma Mass (ICP-MS) Spectrometer			
11	X Ray Fluorescence (XRF) Spectrometer (Portable)			

Specific remarks, if any:

PART I: Facility available for monitoring of environmental parameters:

Parameters	Total Number of Parameters	Facility available for	Facility not available for	
A. Sample Matrix / Group of Water and Wastewater	**67**	**0**	**0**	**67**
(a) Physical Tests	8	0	0	**8**
(b) Inorganic Tests	**34**	**0**	**0**	
(i) General & Non-metallic	15	0	0	**15**
(ii) Trace Metals Tests	19	0	0	**19**
(c) Organics (General) and Trace Organics Tests	**20**	**0**	**0**	
Pesticides	15	0	0	**15**
Organochlorine Pesticides (OCPs) Tests	9	0	0	**9**
Organophosphorus Pesticides (OPPs) Tests	6	0	0	**6**
(d) Microbiological Tests	**4**	**0**	**0**	**4**
(e) Toxicological Tests	**1**	**0**	**0**	**1**
B. Sample Matrix / Group of Solid / Solid Waste	**15**	**0**	**0**	
(a) Soil / Sediment / Compost Tests	7	0	0	**7**
(b) Hazardous Waste (Liquid / Slurry / Sludge / Solid / Semi-Solid) Tests	8	0	0	**8**
C. Sample Matrix / Group of Analytes: Air	**28**	**10**	**1**	
(a) Ambient Air	12	0	0	**12**
(b) Stack Gas / Stationary Source Emission	9	8	1	**0**
(c) Noise Level	2	2	0	**0**
(d) Meteorological Monitoring	5	0	0	**5**

PART II: Details of Laboratory Infrastructure (Instruments and Equipment)

Name of Instrument / Equipments	Total Numbers	Number of Available	Number of Not Available	
Total	**148**	**20**	**45**	**83**
A. List of Instruments / Equipment for Sampling of Water, Wastewater and Soil / Hazardous Wastes	**15**	**7**	**8**	
a) Mandatory Requirements	11	7	4	**0**
b) Optional Requirements	4	0	4	**0**
B. List of Instruments / Equipment for Sampling of Ambient Air and Source Emission monitoring	**50**	**13**	**37**	
a) Mandatory Requirements	22	9	13	**0**
b) Optional Requirements	28	4	24	**0**
C. List of Equipment required for processing of Environmental Samples:	**46**	**0**	**0**	
a) Mandatory Requirements	46	0	0	**46**
D. Analytical Instruments at Environmental Laboratories	**37**	**0**	**0**	

a) Mandatory Requirements	26	0	0	**26**
b) Optional Requirements	11	0	0	**11**

Note: It is requested to please ensure that each sheet is created separately for each laboratory and rename the sheet accordingly . For e.g. Central Laboratory, Regional Laboratory etc

LABORATORY ANALYTICAL FACILITIES

Name of the Board / Committee: Central Laboratory Parwanoo

PART I: Facility available for monitoring of environmental parameters:

S. No.	Parameters	Facilities Available (Yes / No)	If facility is not available, Specify Timeline for addition of this parameter. (in months)	Action Taken for addition of this parameter (Specification finalized / procurement initiated / work awarded / outsourced)
A. Sample Matrix / Group of Water and Wastewater				
(a) Physical Tests				
1	Temperature	Yes		
2	Colour	Yes		
3	pH	Yes		
4	Turbidity	Yes		
5	Conductivity	Yes		
6	Total Solids	Yes		
7	Total Dissolved Solids (TDS)	Yes		
8	Total Suspended Solids (TSS)	Yes		
(b) Inorganic Tests				
(i) General & Non-metallic				
1	Alkalinity	Yes		
2	Chloride	Yes		

3	Cyanide	No	30 months	Outsourced. Process Inititated for development of In-house Facility
4	Dissolved oxygen	Yes		
5	Nitrite nitrogen	Yes		
6	Nitrate nitrogen	Yes		
7	Ammonical nitrogen	Yes		
8	Fluoride	Yes		
9	Hardness (Total)	Yes		
10	Calcium	Yes		
11	Magnesium	Yes		
12	Phosphate	Yes		
13	Sulphate	Yes		
14	Sulphide	Yes		
15	Total Residual chlorine (TRC)	Yes		
(ii) Trace Metals Tests				
1	Aluminium (Al)	Yes		
2	Arsenic (As) Total	Yes		
3	Barium	No	18 months	Outsourced. Process Inititated for development of In-house Facility
4	Boron	Yes		
5	Chromium (Cr) Hexavalent	Yes		
6	Chromium (Cr) Total	Yes		
7	Cadmium (Cd)	Yes		
8	Cobalt (Co)	Yes		
9	Copper (Cu)	Yes		
10	Iron (Fe)	Yes		
11	Lead (Pb)	Yes		
12	Manganese (Mn)	Yes		
13	Mercury (Hg)	Yes		

14	Nickel (Ni)	Yes		
15	Potassium (K)	Yes		
16	Sodium (Na)	Yes		
17	Vanadium (V)	No	18 months	Outsourced. Process Inititated for development of In-house Facility
18	Zinc (Zn)	Yes		
19	Selenium (Se)	Yes		
(c) Organics (General) and Trace Organics Tests				
1	Biological Oxygen Demand (BOD)	Yes		
2	Chemical oxygen demand (COD)	Yes		
3	Oil & Grease	Yes		
4	Phenolic Compounds as C6H5OH	Yes		
5	Benzopyrene	No	30 months	Outsourced. Process Inititated for development of In-house Facility
6	**Pesticides**			
6.a	**Organochlorine Pesticides (OCPs) Tests**			
i	Aldrin	No	30 months	Outsourced. Process Inititated for development of In-house Facility
ii	Alpha Endosulphan	No	30 months	Outsourced. Process Inititated for development of In-house Facility
iii	p,p'-DDT	No	30 months	Outsourced. Process Inititated for development of In-house Facility
iv	Alpha-HCH	No	30 months	Outsourced. Process Inititated for development of In-house Facility
v	Beta HCH	No	30 months	Outsourced. Process Inititated for development of In-house Facility
vi	Beta Endosulphan	No	30 months	Outsourced. Process Inititated for development of In-house Facility
vii	Gama-HCH	No	30 months	Outsourced. Process Inititated for development of In-house Facility
viii	o,p'-DDT	No	30 months	Outsourced. Process Inititated for development of In-house Facility
ix	p,p'-DDE	No	30 months	Outsourced. Process Inititated for development of In-house Facility

6.b	**Organophosphorus Pesticides (OPPs) Tests**			
i	Malathion	No	30 months	Outsourced. Process Inititated for development of In-house Facility
ii	Methyl parathion	No	30 months	Outsourced. Process Inititated for development of In-house Facility
iii	Chlorpyriphos	No	30 months	Outsourced. Process Inititated for development of In-house Facility
iv	Dimethoate	No	30 months	Outsourced. Process Inititated for development of In-house Facility
v	Dieldrin	No	30 months	Outsourced. Process Inititated for development of In-house Facility
vi	Ethion	No	30 months	Outsourced. Process Inititated for development of In-house Facility
(d) Microbiological Tests				
1	Total Coliform	Yes		
2	Faecal Coliform	Yes		
3	E. Coli	Yes		
4	Faecal Streptococci	Yes		
(e) Toxicological Tests				
1	Bioassay method for evaluation of toxicity using fish (90% survival of fish after 96 hrs in 100% effluent)	Yes		
B. Sample Matrix / Group of Solid / Solid Waste				
(a) Soil / Sediment / Compost Tests				
1	Cation Exchange Capacity (CEC)	Yes		
2	Electrical Conductivity (EC)	Yes		
3	Organic carbon (Chemical Method)	Yes		
4	pH	Yes		
5	Soil moisture	Yes		
6	Total nitrogen	Yes		
7	Metals by digestion (As, Cd, Cr, Pb, Ni etc.)	Yes		
(b) Hazardous Waste (Liquid / Slurry / Sludge / Solid / Semi-Solid) Tests				

1	Corrosivity	No	18 Months	Process Inititated for development of Inhouse Facility
2	Ignitability (Flash Point)	No	18 Months	Process Inititated for development of Inhouse Facility
3	Loss on Drying at 1050C (% Moisture Content)	Yes		
4	Loss on Drying at 5500C (% Organic Content)	Yes		
5	pH	Yes		
6	Organic carbon/matter (Chemical Method)	Yes		
7	Calorific Value	No	18 Months	Process Inititated for development of Inhouse Facility
8	Toxicity Characteristics leaching procedure (TCLP) Leachate and Metals in Leachate (As,Cd,Cr, Pb, Ni)	No		
C. Sample Matrix / Group of Analytes: Air				
(a) Ambient Air				
1	Nitrogen dioxide as NO2	Yes		
2	Sulphur dioxide (SO2)	Yes		
3	Particulate matter (PM10)	Yes		
4	Particulate matter (PM2.5)	Yes		
5	Carbon Monoxide	Yes		
6	Ozone	Yes		
7	Benzene	No	30 Months	Outsourced. Process Inititated for development of In-house Facility
8	Ammonia	Yes		
9	Metals in Particulate Matter, Pb	Yes		
10	Metals in Particulate Matter, As	Yes		
11	Metals in Particulate Matter, Ni	Yes		
12	Particulate Benzo-a-Pyrene (BaP)	No	30 Months	Outsourced. Process Inititated for development of In-house Facility
(b) Stack Gas / Stationary Source Emission				
1	Particulate Matter	NA*		

2	Sulphur Dioxide	NA*		
3	Carbon Dioxide	NA*		
4	Carbon Monoxide (NDIR based Method)	NA*		
5	Temperature	NA*		
6	Moisture	NA*		
7	Oxygen	NA*		
8	Oxides of Nitrogen	NA*		
9	Halides (HCL/HF)	NA*		
(c) Noise Level				
1	Ambient Noise level measurement (20 to 140 dB)	NA*		
2	Source Noise Level Measurement (Industrial process, DG set- 20 to 140dB)	NA*		
(d) Meteorological Monitoring				
1	Ambient Temperature	Yes		
2	Wind direction	Yes		
3	Wind speed	Yes		
4	Relative Humidity	Yes		
5	Mixing Height	No		

Specific remarks, if any:

NA* Stack Gas / Stationary Source Emission, Nose level are not under the jurisdiction /mandate of State Laboratories. However the information is filled up in Summary Sheet a

PART II: Details of Laboratory Infrastructure (Instruments and Equipment)

S. No.	Name of Instrument / Equipments	Available Yes / No	If the Instrument / Equipment is not available, Specify Timeline for procurement of this instrument (in months)	Action Taken for procurement of this Instrument / Equipment (Specification finalized / procurement initiated / work awarded / outsourced)
A. List of Instruments / Equipment for Sampling of Water, Wastewater and Soil / Hazardous Wastes				
a) Mandatory Requirements				
1	Portable / Pen type pH meter / pH strip	NA*		
2	Portable Dissolved Oxygen Meter / Field Fixing using chemicals	NA*		
3	Electrical Conductivity meter pen type	NA*		
4	Flow meter / Physical flow measuring	NA*		
5	GPS / Mobile with GPS app	NA*		
6	Ice Box (2 nos.) (150 litre & 100 litre capacities)	NA*		
7	Thermometer	NA*		
8	Stainless steel bucket with nylon rope and mug	NA*		
9	Ground water level measuring device	NA*		
10	Scoop / shovel	NA*		
11	Auger / core sampler	NA*		
b) Optional Requirements				
1	Bottom Sampler / Depth sampler	NA*		
2	Chloroscope for residual chlorine	NA*		
3	Vandorn or equivalent water sampler (Automatic sampler when composite sampling to be done)	NA*		
4	Ekman Dredge	NA*		
B. List of Instruments / Equipment for Sampling of Ambient Air and Source Emission monitoring				
a) Mandatory Requirements				
1	Fine dust samplers PM2.5 (*4 Nos)	NA*		
2	Respirable Dust Sampler PM 10 (* 4 Nos)	NA*		

	3	High Volume Sampler (SPM) (4 Nos)	NA*		
	4	Handy Sampler with set of glass impingers (*2 Nos)	NA*		
	5	Low Volume Sampler (LVS)	NA*		
	6	Tedler bags different sizes	NA*		
	7	Meteorological tower (All in one telescopic Mast) with sensors comprising wind speed, wind direction, ambient temp., Relative humidity, Solar radiation, rainfall etc.	NA*		
	8	Nitrogen Cylinder portable	NA*		
	9	Activated Charcoal tubes/ Tenex	NA*		
	10	Barometer (Digital)	NA*		
	11	Isokinetic Stack Monitoring Kit complete with Stack monitoring instrument panel with inclined cum vertical manometer, Cold Box, Vacuum pump, Glass assembly impingers	NA*		
	12	Modified S type Stainless steel Pitot tube (Standard length) with Assembly	NA*		
	13	Monoblock type, rotary design vacuum pump	NA*		
	14	Orsat Apparatus	NA*		
	15	Source emission monitoring Impingers train set with spare impingers 100 ml & 225 ml capacity	NA*		
	16	Stainless steel heated Sampling Probes with thimble holders short and long	NA*		
	17	Flue Gas analyzer	NA*		
	18	Thermometer/ Thermocouple	NA*		
	19	Calibrator for Noise Meters	NA*		
	20	Digital Sound level (Noise) Metres	NA*		
	21	Portable TOC Analyzer for emission monitoring.	NA*		
	22	Polyurethane Foam PUF Sampler	NA*		

	b) Optional Requirements				
	1	Anemometer	NA*		
	2	Weather Monitoring system	NA*		
	3	Wind speed/wind direction monitor	NA*		
	4	Continuous Ambient Air Monitoring System, Fixed	NA*		
	5	Continuous PM10 Analyzer	NA*		
	6	Continuous Ambient Air Monitoring System, Mobile	NA*		
	7	Continuous PM2.5 analyzer	NA*		
	8	Ambient Nitrogen Oxides (NO-NO2-NOx Analyzer	NA*		
	9	Ambient Ozone Analyzer	NA*		
	10	Ambient BTEX Analyzer	NA*		
	11	Multipoint Gas Calibration system	NA*		
	12	Ambient Sulphur Dioxide analyzer	NA*		
	13	Ambient Carbon Monoxide & Carbon dioxide analyzer	NA*		
	14	Total Hydrocarbon analyzer	NA*		
	15	Ambient Ammonia analyzer	NA*		
	16	Zero Gas Generator	NA*		
	17	Synthetic Air Cylinder	NA*		
	18	Calibration Gas Cylinders, SO2, NO, CO, NH3B ,enzene and Toluene One each with stainless steel Regulators	NA*		
	19	Continuous emission monitoring equipment	NA*		
	20	19 inch Rack mounting system for air analyzers	NA*		
	21	Dry Gas Meter	NA*		
	22	Diesel Exhaust analyzer	NA*		
	23	Exhaust CO/HC analyzer with Sampling Probe	NA*		

	24	Automated Noise Monitoring System	NA*		
	25	Integrating Sound level meter	NA*		
	26	Continuous PM10& PM2.5 Monitoring Analyzer TEOM system	NA*		
	27	Top loading orifice kit for calibration of HVS	NA*		
	28	Permeation tubes (SO2, NO-NO2-NOx, NH3, BTX)	NA*		
	C. List of Equipment required for processing of Environmental Samples:				
	a) Mandatory Requirements				
	1	Accelerated Solvent Extraction (ASE) System	No	30 Months	Process Inititated for development of Inhouse Facility
	2	Ammonia distillation assembly/TKN Analyzer	Yes		
	3	Analytical Balance 4/5 digit & 6 digit (Digital)	Yes		
	4	Aquarium for Toxicity bioassay test with complete accessories (*4 Nos)	Yes		
	5	Autoclave (*2 Nos)	Yes		
	6	Bacteriological Incubators Stainless steel (*2 Nos)	Yes		
	7	Bio safety cabinets	No	18 Months	Facility available at Regional Laboratories.
	8	BOD Incubators (2 nos.)	Yes		
	9	Centrifuge	No	18 Months	Process Inititated for development of Inhouse Facility
	10	COD Digestion heated Blocks (2) with capacity 16 nos. or more	No		Facility available at Regional Laboratories.
	11	Cyanide Distillation Assembly (3)	No	30 Months	Process Inititated for development of Inhouse Facility
	12	Deep Freezer- Capacity 500 litre	Yes		
	13	Laboratory Ball Mill Grinder	No	30 Months	Process Inititated for development of Inhouse Facility
	14	Laboratory Grinder	No	30 Months	Process Inititated for development of Inhouse Facility

	15	Laminar Flow bench for Microbiological analysis	Yes		
	16	Magnetic Stirrer with heating system (*2 Nos)	Yes		
	17	Mechanical Shaker	No	30 Months	Facility available at Regional Laboratories.
	18	Membrane Filtration assembly with vacuum pump (2 nos.)	No	30 Months	Facility available at Regional Laboratories.
	19	Microbial culture refrigerator	Yes		
	20	Microwave Digester with 16 vessels/ Hot Plate	No	30 Months	Process Inititated for development of Inhouse Facility
	21	Muffle Furnace (*1 Nos), Range 1200 C	No	30 Months	Facility available at Regional Laboratories.
	22	Phenol distillation assembly (3)	Yes		
	23	Plate counter, Manual/Automatic	No	30 Months	Process Inititated for development of Inhouse Facility
	24	Digestion Chambers/ Fume hood	Yes		
	25	Digital Thermometer & Humidity meter- All lab area	Yes		
	26	Dispensers (Various capacities) up to 5, 10, 25 & 50 ml	Yes		
	27	Filtration Assembly with vacuum pump	Yes		
	28	Fluoride Distillation Assembly (3)	No	30 Months	Process Inititated for development of Inhouse Facility
	29	Arsenic / Fluoride Glass Distillation assemblies	No	30 Months	Process Inititated for development of Inhouse Facility
	30	Glass Double Distillation Assembly /Water Purification System	Yes		
	31	Heating mantles (2 nos.)	Yes		
	32	Hot plates (small, Medium and Large) (*2 nos.)	Yes		
	33	Thermo Hygrometer	Yes		
	34	Imhoff Cone	No	30 Months	Process Inititated for development of Inhouse Facility

	35	Top loading Precision Digital Balance (minimum detection 0.001mg/0.01 mg) with anti-vibration facility- 3 nos. i.e 4/5 Digit (2 nos), - 6 Digit (1 no)	Yes		
	36	Refrigerators Big Size 300 litres or more, double door- 2 nos.	No	30 Months	Facility available at Regional Laboratories.
	37	Rotary Evaporator (Buchi type) with water recirculating chiller	No	30 Months	Process Inititated for development of Inhouse Facility
	38	Separating funnel shaker	No	30 Months	Process Inititated for development of Inhouse Facility
	39	Soxhlet Apparatus	No	30 Months	Process Inititated for development of Inhouse Facility
	40	Solid Phase Extraction (SPE) /SPME Extraction system	No	30 Months	Process Inititated for development of Inhouse Facility
	41	Thermometer (Alcohol)	Yes		
	42	Dry & wet bulb Thermometer	Yes		
	43	Toxicity characteristic leaching procedure (TCLP) Extractors (Zero head and Bottle)	No	30 Months	Process Inititated for development of Inhouse Facility
	44	Ultra sonic water bath- Capacity 3 litre	No	30 Months	Process Inititated for development of Inhouse Facility
	45	Water Bath with temperature control (*2 Nos)	Yes		
	46	Water Bath with temp. for mercury sample digestion- 20 BOD Bottles	No	30 Months	Process Inititated for development of Inhouse Facility
	D. Analytical Instruments at Environmental Laboratories				
	a) Mandatory Requirements				
	1	Atomic Absorption spectrometer (AAS) - Flame, Hydride & Graphite Tube Atomizer (GTA)	Yes		
	2	Binocular Stereo Zoom Microscope	No	30 Months	Process Inititated for development of Inhouse Facility
	3	Bomb Calorimeter	No	30 Months	Process Inititated for development of Inhouse Facility

	4	BTX Analyzer with BTX calibrator	No	30 Months	Process Inititated for development of Inhouse Facility
	5	Colony counter	No	30 Months	Process Inititated for development of Inhouse Facility
	6	Conductivity meter- 2 nos.	Yes		
	7	Environment conditioning chamber	No	30 Months	Process Inititated for development of Inhouse Facility
	8	Digital Burettes- 50 ml*2, 100 ml*2	No	30 Months	Process Inititated for development of Inhouse Facility
	9	Dissolved Oxygen Meter (Bench model)	No	30 Months	Process Inititated for development of Inhouse Facility
	10	Flame Photometer	Yes		
	11	Flash Point Apparatus	No	30 Months	Process Inititated for development of Inhouse Facility
	12	Gas Chromatograph Mass Spectrometer	No	30 Months	Process Inititated for development of Inhouse Facility
	13	High Performance Liquid Chromatograph (HPLC)	No	30 Months	Process Inititated for development of Inhouse Facility
	14	Inductively Coupled Plasma (ICP) Spectrometer-OES	No	30 Months	Process Inititated for development of Inhouse Facility
	15	Ion Chromatograph Anion & Cations	No	30 Months	Process Inititated for development of Inhouse Facility
	16	Methane and Non Methane (NMHC) Analyzer	No	30 Months	Process Inititated for development of Inhouse Facility
	17	Microscope – 100x	No	30 Months	Facility available at Regional Laboratories.
	18	Microscope Binocular Research	No	30 Months	Process Inititated for development of Inhouse Facility
	19	CO (NDIR based) Analyzer	Yes		
	20	Nephelometer (Turbidity Meter)	Yes		
	21	pH-Meter with combined electrode (3 point)- 2 nos.	Yes		
	22	Specific ion Analyzer with ion selective electrodes	No	30 Months	Process Inititated for development of Inhouse Facility
	23	Spectrophotometer Visible (Portable)	No	12 Months	Facility available at Regional Laboratories.
	24	TKN Analyzer semi-automatic with aluminum block digester	Yes		

25	UV-Vis Spectrophotometer	Yes		
26	Moisture Content Analyzer	No	30 Months	Process Inititated for development of Inhouse Facility
b) Optional Requirements				
1	Automatic Titration Assembly	No	30 Months	Process Inititated for development of Inhouse Facility
2	Carbon, Hydrogen, Nitrogen and Sulphur (CHNS) Elemental Analyzer	No	30 Months	Process Inititated for development of Inhouse Facility
3	EDXRF Analyzer/WDXRF Analyzer	No	30 Months	Process Inititated for development of Inhouse Facility
4	Fourier-transform infrared Spectrometer (FTIR)	No	30 Months	Process Inititated for development of Inhouse Facility
5	Flocculator (Jar testing apparatus)	No	30 Months	Process Inititated for development of Inhouse Facility
6	Toxic Gas Analyzer	No	30 Months	Process Inititated for development of Inhouse Facility
7	Organic Halogen (AOX/TOX) Analyzer	No	30 Months	Process Inititated for development of Inhouse Facility
8	TOC Analyzer	No	30 Months	Process Inititated for development of Inhouse Facility
9	High Resolution Mass Spectrometer (HRGC-HRMS)	No	30 Months	Process Inititated for development of Inhouse Facility
10	Inductively Coupled Plasma Mass (ICP-MS) Spectrometer	No	30 Months	Process Inititated for development of Inhouse Facility
11	X Ray Fluorescence (XRF) Spectrometer (Portable)	No	30 Months	Process Inititated for development of Inhouse Facility

Specific remarks, if any: NA* List of Instruments / Equipment for Sampling of Water, Wastewater and Soil / Hazardous Wastes Ambient Air and Source Emission monitoring are not under the jurisdiction /mandate of State Laboratories. However the information is filled up in Summary Sheet and Regulatroy division sheet

PART I: Facility available for monitoring of environmental parameters:

Parameters	Total Number of Parameters	Facility available for	Facility not available for	
A. Sample Matrix / Group of Water and Wastewater	**67**	**48**	**19**	**0**
(a) Physical Tests	8	8	0	**0**
(b) Inorganic Tests	**34**	**31**	**3**	
(i) General & Non-metallic	15	14	1	**0**
(ii) Trace Metals Tests	19	17	2	**0**
(c) Organics (General) and Trace Organics Tests	**20**	**4**	**16**	
Pesticides	15	0	15	**0**
Organochlorine Pesticides (OCPs) Tests	9	0	9	**0**
Organophosphorus Pesticides (OPPs) Tests	6	0	6	**0**
(d) Microbiological Tests	**4**	**4**	**0**	**0**
(e) Toxicological Tests	**1**	**1**	**0**	**0**
B. Sample Matrix / Group of Solid / Solid Waste	**15**	**11**	**4**	
(a) Soil / Sediment / Compost Tests	7	7	0	**0**
(b) Hazardous Waste (Liquid / Slurry / Sludge / Solid / Semi-Solid) Tests	8	4	4	**0**

C. Sample Matrix / Group of Analytes: Air	**28**	**14**	**3**	
(a) Ambient Air	12	10	2	**0**
(b) Stack Gas / Stationary Source Emission	9	0	0	**9**
(c) Noise Level	2	0	0	**2**
(d) Meteorological Monitoring	5	4	1	**0**
PART II: Details of Laboratory Infrastructure (Instruments and Equipment)				
Name of Instrument / Equipments	**Total Numbers**	**Number of Available**	**Number of Not Available**	
Total	**148**	**31**	**52**	**65**
A. List of Instruments / Equipment for Sampling of Water, Wastewater and Soil / Hazardous Wastes	**15**	**0**	**0**	
a) Mandatory Requirements	11	0	0	**11**
b) Optional Requirements	4	0	0	**4**
B. List of Instruments / Equipment for Sampling of Ambient Air and Source Emission monitoring	**50**	**0**	**0**	
a) Mandatory Requirements	22	0	0	**22**
b) Optional Requirements	28	0	0	**28**
C. List of Equipment required for processing of Environmental Samples:	**46**	**23**	**23**	
a) Mandatory Requirements	46	23	23	**0**
D. Analytical Instruments at Environmental Laboratories	**37**	**8**	**29**	
a) Mandatory Requirements	26	8	18	**0**
b) Optional Requirements	11	0	11	**0**

Note: It is requested to please ensure that each sheet is created separately for each laboratory and rename t
Laboratory, Regional Laboratory etc

LABORATORY ANALYTICAL FACILITIES

Name of the Board / Committee: HPPCB RL Dharamshala

PART I: Facility available for monitoring of environmental parameters:

S. No.	Parameters	Facilities Available (Yes / No)	If facility is not available, Specify Timeline for addition of this parameter. (in months)
A. Sample Matrix / Group of Water and Wastewater			
(a) Physical Tests			
1	Temperature	Yes	
2	Colour	Yes	
3	pH	Yes	
4	Turbidity	Yes	
5	Conductivity	Yes	
6	Total Solids	Yes	
7	Total Dissolved Solids (TDS)	Yes	
8	Total Suspended Solids (TSS)	Yes	
(b) Inorganic Tests			
(i) General & Non-metallic			
1	Alkalinity	Yes	
2	Chloride	Yes	

3	Cyanide	No	
4	Dissolved oxygen	Yes	
5	Nitrite nitrogen	No	
6	Nitrate nitrogen	Yes	
7	Ammonical nitrogen	Yes	
8	Fluoride	Yes	
9	Hardness (Total)	Yes	
10	Calcium	Yes	
11	Magnesium	Yes	
12	Phosphate	Yes	
13	Sulphate	Yes	
14	Sulphide	Yes	
15	Total Residual chlorine (TRC)	Yes	
(ii) Trace Metals Tests			
1	Aluminium (Al)	Yes	
2	Arsenic (As) Total	Yes	
3	Barium	No	
4	Boron	Yes	
5	Chromium (Cr) Hexavalent	Yes	
6	Chromium (Cr) Total	Yes	
7	Cadmium (Cd)	Yes	
8	Cobalt (Co)	Yes	
9	Copper (Cu)	Yes	
10	Iron (Fe)	Yes	
11	Lead (Pb)	Yes	
12	Manganese (Mn)	Yes	
13	Mercury (Hg)	Yes	
14	Nickel (Ni)	Yes	

15	Potassium (K)	Yes	
16	Sodium (Na)	Yes	
17	Vanadium (V)	No	
18	Zinc (Zn)	Yes	
19	Selenium (Se)	No	
(c) Organics (General) and Trace Organics Tests			
1	Biological Oxygen Demand (BOD)	Yes	
2	Chemical oxygen demand (COD)	Yes	
3	Oil & Grease	Yes	
4	Phenolic Compounds as C6H5OH	Yes	
5	Benzopyrene	No	
6	**Pesticides**		
6.a	**Organochlorine Pesticides (OCPs) Tests**		
i	Aldrin	No	
ii	Alpha Endosulphan	No	
iii	p,p'-DDT	No	
iv	Alpha-HCH	No	
v	Beta HCH	No	
vi	Beta Endosulphan	No	
vii	Gama-HCH	No	
viii	o,p'-DDT	No	
ix	p,p'-DDE	No	
6.b	**Organophosphorus Pesticides (OPPs) Tests**		
i	Malathion	No	
ii	Methyl parathion	No	
iii	Chlorpyriphos	No	
iv	Dimethoate	No	
v	Dieldrin	No	
vi	Ethion	No	
(d) Microbiological Tests			

1	Total Coliform	Yes	
2	Faecal Coliform	Yes	
3	E. Coli	Yes	
4	Faecal Streptococci	Yes	
(e) Toxicological Tests			
1	Bioassay method for evaluation of toxicity using fish (90% survival of fish after 96 hrs in 100% effluent)	No	
B. Sample Matrix / Group of Solid / Solid Waste			
(a) Soil / Sediment / Compost Tests			
1	Cation Exchange Capacity (CEC)	Yes	
2	Electrical Conductivity (EC)	Yes	
3	Organic carbon (Chemical Method)	Yes	
4	pH	Yes	
5	Soil moisture	Yes	
6	Total nitrogen	Yes	
7	Metals by digestion (As, Cd, Cr, Pb, Ni etc.)	Yes	
(b) Hazardous Waste (Liquid / Slurry / Sludge / Solid / Semi-Solid) Tests			
1	Corrosivity	No	
2	Ignitability (Flash Point)	No	
3	Loss on Drying at 1050C (% Moisture Content)	Yes	
4	Loss on Drying at 5500C (% Organic Content)	Yes	
5	pH	Yes	
6	Organic carbon/matter (Chemical Method)	Yes	
7	Calorific Value	No	
8	Toxicity Characteristics leaching procedure (TCLP) Leachate and Metals in Leachate (As,Cd,Cr, Pb, Ni)	No	

C. Sample Matrix / Group of Analytes: Air			
(a) Ambient Air			
1	Nitrogen dioxide as NO2	Yes	
2	Sulphur dioxide (SO2)	Yes	
3	Particulate matter (PM10)	Yes	
4	Particulate matter (PM2.5)	Yes	
5	Carbon Monoxide	No	
6	Ozone	Yes	
7	Benzene	No	
8	Ammonia	Yes	
9	Metals in Particulate Matter, Pb	Yes	
10	Metals in Particulate Matter, As	Yes	
11	Metals in Particulate Matter, Ni	Yes	
12	Particulate Benzo-a-Pyrene (BaP)	No	
(b) Stack Gas / Stationary Source Emission			
1	Particulate Matter	NA*	
2	Sulphur Dioxide	NA*	
3	Carbon Dioxide	NA*	
4	Carbon Monoxide (NDIR based Method)	NA*	
5	Temperature	NA*	
6	Moisture	NA*	
7	Oxygen	NA*	
8	Oxides of Nitrogen	NA*	
9	Halides (HCL/HF)		
(c) Noise Level			
1	Ambient Noise level measurement (20 to 140 dB)	NA*	
2	Source Noise Level Measurement (Industrial process, DG set- 20 to 140dB)	NA*	

(d) Meteorological Monitoring			
1	Ambient Temperature	Yes	
2	Wind direction	Yes	
3	Wind speed	Yes	
4	Relative Humidity	Yes	
5	Mixing Height	No	
Specific remarks, if any:			
NA*	Stack Gas / Stationary Source Emission, Nose level are not under the jurisdiction /mandate of State Labo		

PART II: Details of Laboratory Infrastructure (Instruments and Equipmer

S. No.	Name of Instrument / Equipments	Available Yes / No	If the Instrument / Equipment is not available, Specify Timeline for procurement of this instrument (in months)
A. List of Instruments / Equipment for Sampling of Water, Wastewater and Soil / Hazardous Wastes			
a) Mandatory Requirements			
1	Portable / Pen type pH meter / pH strip	NA*	
2	Portable Dissolved Oxygen Meter / Field Fixing using chemicals	NA*	
3	Electrical Conductivity meter pen type	NA*	
4	Flow meter / Physical flow measuring	NA*	
5	GPS / Mobile with GPS app	NA*	
6	Ice Box (2 nos.) (150 litre & 100 litre capacities)	NA*	
7	Thermometer	NA*	

8	Stainless steel bucket with nylon rope and mug	NA*	
9	Ground water level measuring device	NA*	
10	Scoop / shovel	NA*	
11	Auger / core sampler	NA*	
b) Optional Requirements			
1	Bottom Sampler / Depth sampler	NA*	
2	Chloroscope for residual chlorine	NA*	
3	Vandorn or equivalent water sampler (Automatic sampler when composite sampling to be done)	NA*	
4	Ekman Dredge	NA*	
B. List of Instruments / Equipment for Sampling of Ambient Air and Source Emission monitoring			
a) Mandatory Requirements			
1	Fine dust samplers PM2.5 (*4 Nos)	NA*	
2	Respirable Dust Sampler PM 10 (* 4 Nos)	NA*	
3	High Volume Sampler (SPM) (4 Nos)	NA*	
4	Handy Sampler with set of glass impingers (*2 Nos)	NA*	
5	Low Volume Sampler (LVS)	NA*	
6	Tedler bags different sizes	NA*	
7	Meteorological tower (All in one telescopic Mast) with sensors comprising wind speed, wind direction, ambient temp., Relative humidity, Solar radiation, rainfall etc.	NA*	
8	Nitrogen Cylinder portable	NA*	
9	Activated Charcoal tubes/ Tenex	NA*	
10	Barometer (Digital)	NA*	

	11	Isokinetic Stack Monitoring Kit complete with Stack monitoring instrument panel with inclined cum vertical manometer, Cold Box, Vacuum pump, Glass assembly impingers	NA*	
	12	Modified S type Stainless steel Pitot tube (Standard length) with Assembly	NA*	
	13	Monoblock type, rotary design vacuum pump	NA*	
	14	Orsat Apparatus	NA*	
	15	Source emission monitoring Impingers train set with spare impingers 100 ml & 225 ml capacity	NA*	
	16	Stainless steel heated Sampling Probes with thimble holders short and long	NA*	
	17	Flue Gas analyzer	NA*	
	18	Thermometer/ Thermocouple	NA*	
	19	Calibrator for Noise Meters	NA*	
	20	Digital Sound level (Noise) Metres	NA*	
	21	Portable TOC Analyzer for emission monitoring.	NA*	
	22	Polyurethane Foam PUF Sampler	NA*	
	b) Optional Requirements			
	1	Anemometer	NA*	
	2	Weather Monitoring system	NA*	
	3	Wind speed/wind direction monitor	NA*	
	4	Continuous Ambient Air Monitoring System, Fixed	NA*	
	5	Continuous PM10 Analyzer	NA*	
	6	Continuous Ambient Air Monitoring System, Mobile	NA*	
	7	Continuous PM2.5 analyzer	NA*	

8	Ambient Nitrogen Oxides (NO-NO2-NOx Analyzer	NA*	
9	Ambient Ozone Analyzer	NA*	
10	Ambient BTEX Analyzer	NA*	
11	Multipoint Gas Calibration system	NA*	
12	Ambient Sulphur Dioxide analyzer	NA*	
13	Ambient Carbon Monoxide & Carbon dioxide analyzer	NA*	
14	Total Hydrocarbon analyzer	NA*	
15	Ambient Ammonia analyzer	NA*	
16	Zero Gas Generator	NA*	
17	Synthetic Air Cylinder	NA*	
18	Calibration Gas Cylinders, SO2, NO, CO, NH3B ,enzene and Toluene One each with stainless steel Regulators	NA*	
19	Continuous emission monitoring equipment	NA*	
20	19 inch Rack mounting system for air analyzers	NA*	
21	Dry Gas Meter	NA*	
22	Diesel Exhaust analyzer	NA*	
23	Exhaust CO/HC analyzer with Sampling Probe	NA*	
24	Automated Noise Monitoring System	NA*	
25	Integrating Sound level meter	NA*	
26	Continuous PM10& PM2.5 Monitoring Analyzer TEOM system	NA*	
27	Top loading orifice kit for calibration of HVS	NA*	
28	Permeation tubes (SO2, NO-NO2-NOx, NH3, BTX)	NA*	
C. List of Equipment required for processing of Environmental Samples:			

	a) Mandatory Requirements			
	1	Accelerated Solvent Extraction (ASE) System	No	
	2	Ammonia distillation assembly/TKN Analyzer	Yes	
	3	Analytical Balance 4/5 digit & 6 digit (Digital)	Yes	
	4	Aquarium for Toxicity bioassay test with complete accessories (*4 Nos)	No	
	5	Autoclave (*2 Nos)	Yes	
	6	Bacteriological Incubators Stainless steel (*2 Nos)	Yes	
	7	Bio safety cabinets	No	
	8	BOD Incubators (2 nos.)	Yes	
	9	Centrifuge	No	
	10	COD Digestion heated Blocks (2) with capacity 16 nos. or more	Yes	
	11	Cyanide Distillation Assembly (3)	No	
	12	Deep Freezer- Capacity 500 litre	No	
	13	Laboratory Ball Mill Grinder	No	
	14	Laboratory Grinder	No	
	15	Laminar Flow bench for Microbiological analysis	Yes	
	16	Magnetic Stirrer with heating system (*2 Nos)	Yes	
	17	Mechanical Shaker	No	
	18	Membrane Filtration assembly with vacuum pump (2 nos.)	No	
	19	Microbial culture refrigerator	No	
	20	Microwave Digester with 16 vessels/ Hot Plate	Yes	
	21	Muffle Furnace (*1 Nos), Range 1200 C	Yes	

	22	Phenol distillation assembly (3)	Yes	
	23	Plate counter, Manual/Automatic	No	
	24	Digestion Chambers/ Fume hood	Yes	
	25	Digital Thermometer & Humidity meter- All lab area	Yes	
	26	Dispensers (Various capacities) up to 5, 10, 25 & 50 ml	Yes	
	27	Filtration Assembly with vacuum pump	Yes	
	28	Fluoride Distillation Assembly (3)		
	29	Arsenic / Fluoride Glass Distillation assemblies	No	
	30	Glass Double Distillation Assembly /Water Purification System	Yes	
	31	Heating mantles (2 nos.)	Yes	
	32	Hot plates (small, Medium and Large) (*2 nos.)	Yes	
	33	Thermo Hygrometer	Yes	
	34	Imhoff Cone	No	
	35	Top loading Precision Digital Balance (minimum detection 0.001mg/0.01 mg) with anti-vibration facility- 3 nos. i.e 4/5 Digit (2 nos), - 6 Digit (1 no)	Yes	
	36	Refrigerators Big Size 300 litres or more, double door- 2 nos.	Yes	
	37	Rotary Evaporator (Buchi type) with water recirculating chiller	No	
	38	Separating funnel shaker	No	
	39	Soxhlet Apparatus	No	
	40	Solid Phase Extraction (SPE) /SPME Extraction system	No	
	41	Thermometer (Alcohol)	Yes	
	42	Dry & wet bulb Thermometer	Yes	

43	Toxicity characteristic leaching procedure (TCLP) Extractors (Zero head and Bottle)	No	
44	Ultra sonic water bath- Capacity 3 litre	No	
45	Water Bath with temperature control (*2 Nos)	Yes	
46	Water Bath with temp. for mercury sample digestion- 20 BOD Bottles	No	
D. Analytical Instruments at Environmental Laboratories			
a) Mandatory Requirements			
1	Atomic Absorption spectrometer (AAS) - Flame, Hydride & Graphite Tube Atomizer (GTA)	Yes	
2	Binocular Stereo Zoom Microscope	No	
3	Bomb Calorimeter	No	
4	BTX Analyzer with BTX calibrator	No	
5	Colony counter	No	
6	Conductivity meter- 2 nos.	Yes	
7	Environment conditioning chamber	No	
8	Digital Burettes- 50 ml*2, 100 ml*2	No	
9	Dissolved Oxygen Meter (Bench model)	No	
10	Flame Photometer	Yes	
11	Flash Point Apparatus	No	
12	Gas Chromatograph Mass Spectrometer	No	
13	High Performance Liquid Chromatograph (HPLC)	No	
14	Inductively Coupled Plasma (ICP) Spectrometer-OES	No	
15	Ion Chromatograph Anion & Cations	No	
16	Methane and Non Methane (NMHC) Analyzer	No	
17	Microscope – 100x	No	

18	Microscope Binocular Research	No	
19	CO (NDIR based) Analyzer	Yes	
20	Nephelometer (Turbidity Meter)	Yes	
21	pH-Meter with combined electrode (3 point)- 2 nos.	Yes	
22	Specific ion Analyzer with ion selective electrodes	No	
23	Spectrophotometer Visible (Portable)	No	
24	TKN Analyzer semi-automatic with aluminum block digester	No	
25	UV-Vis Spectrophotometer	Yes	
26	Moisture Content Analyzer	No	
b) Optional Requirements			
1	Automatic Titration Assembly	No	
2	Carbon, Hydrogen, Nitrogen and Sulphur (CHNS) Elemental Analyzer	No	
3	EDXRF Analyzer/WDXRF Analyzer	No	
4	Fourier-transform infrared Spectrometer (FTIR)	No	
5	Flocculator (Jar testing apparatus)	No	
6	Toxic Gas Analyzer	No	
7	Organic Halogen (AOX/TOX) Analyzer	No	
8	TOC Analyzer	No	
9	High Resolution Mass Spectrometer (HRGC-HRMS)	No	
10	Inductively Coupled Plasma Mass (ICP-MS) Spectrometer	No	
11	X Ray Fluorescence (XRF) Spectrometer (Portable)	No	

PART I: Facility available for monitoring of environmental parameters:

Parameters	Total Number of Parameters	Facility available for	Facility not available for	
A. Sample Matrix / Group of Water and Wastewater	**67**	**45**	**22**	**0**
(a) Physical Tests	8	8	0	**0**
(b) Inorganic Tests	**34**	**29**	**5**	
(i) General & Non-metallic	15	13	2	**0**
(ii) Trace Metals Tests	19	16	3	**0**
(c) Organics (General) and Trace Organics Tests	**20**	**4**	**16**	
Pesticides	15	0	15	**0**
Organochlorine Pesticides (OCPs) Tests	9	0	9	**0**
Organophosphorus Pesticides (OPPs) Tests	6	0	6	**0**
(d) Microbiological Tests	**4**	**4**	**0**	**0**
(e) Toxicological Tests	**1**	**0**	**1**	**0**
B. Sample Matrix / Group of Solid / Solid Waste	**15**	**11**	**4**	
(a) Soil / Sediment / Compost Tests	7	7	0	**0**
(b) Hazardous Waste (Liquid / Slurry / Sludge / Solid / Semi-Solid) Tests	8	4	4	**0**
C. Sample Matrix / Group of Analytes: Air	**28**	**13**	**4**	
(a) Ambient Air	12	9	3	**0**
(b) Stack Gas / Stationary Source Emission	9	0	0	**9**
(c) Noise Level	2	0	0	**2**
(d) Meteorological Monitoring	5	4	1	**0**

	PART II: Details of Laboratory Infrastructure (Instruments and Equipment)				
	Name of Instrument / Equipments	**Total Numbers**	**Number of Available**	**Number of Not Available**	
	Total	**148**	**31**	**51**	**66**
	A. List of Instruments / Equipment for Sampling of Water, Wastewater and Soil / Hazardous Wastes	**15**	**0**	**0**	
	a) Mandatory Requirements	11	0	0	**11**
	b) Optional Requirements	4	0	0	**4**
	B. List of Instruments / Equipment for Sampling of Ambient Air and Source Emission monitoring	**50**	**0**	**0**	
	a) Mandatory Requirements	22	0	0	**22**
	b) Optional Requirements	28	0	0	**28**
	C. List of Equipment required for processing of Environmental Samples:	**46**	**24**	**21**	
	a) Mandatory Requirements	46	24	21	**1**
	D. Analytical Instruments at Environmental Laboratories	**37**	**7**	**30**	
	a) Mandatory Requirements	26	7	19	**0**
	b) Optional Requirements	11	0	11	**0**

Note: It is requested to please ensure that each sheet is created separately for each laboratory and rename the sheet accordingly . For e.g. Central Laboratory, Regional Laboratory etc

LABORATORY ANALYTICAL FACILITIES

Name of the Board / Committee: **RL Paonta**

PART I: Facility available for monitoring of environmental parameters:

S. No.	Parameters	Facilities Available (Yes / No)	If facility is not available, Specify Timeline for addition of this parameter. (in months)	Action Taken for addition of this parameter (Specification finalized / procurement initiated / work awarded / outsourced)
A. Sample Matrix / Group of Water and Wastewater				
(a) Physical Tests				
1	Temperature	Yes		
2	Colour	Yes		
3	pH	Yes		
4	Turbidity	Yes		
5	Conductivity	Yes		
6	Total Solids	Yes		
7	Total Dissolved Solids (TDS)	Yes		
8	Total Suspended Solids (TSS)	Yes		
(b) Inorganic Tests				
(i) General & Non-metallic				
1	Alkalinity	Yes		
2	Chloride	Yes		
3	Cyanide	No		
4	Dissolved oxygen	Yes		
5	Nitrite nitrogen	Yes		
6	Nitrate nitrogen	Yes		
7	Ammonical nitrogen	Yes		
8	Fluoride	Yes		
9	Hardness (Total)	Yes		
10	Calcium	Yes		
11	Magnesium	Yes		
12	Phosphate	Yes		
13	Sulphate	Yes		
14	Sulphide	Yes		

15	Total Residual chlorine (TRC)	Yes		
(ii) Trace Metals Tests				
1	Aluminium (Al)	Yes		
2	Arsenic (As) Total	Yes		
3	Barium	No		
4	Boron	Yes		
5	Chromium (Cr) Hexavalent	Yes		
6	Chromium (Cr) Total	Yes		
7	Cadmium (Cd)	Yes		
8	Cobalt (Co)	Yes		
9	Copper (Cu)	Yes		
10	Iron (Fe)	Yes		
11	Lead (Pb)	Yes		
12	Manganese (Mn)	Yes		
13	Mercury (Hg)	Yes		
14	Nickel (Ni)	Yes		
15	Potassium (K)	Yes		
16	Sodium (Na)	Yes		
17	Vanadium (V)	No		
18	Zinc (Zn)	Yes		
19	Selenium (Se)	Yes		
(c) Organics (General) and Trace Organics Tests				
1	Biological Oxygen Demand (BOD)	Yes		
2	Chemical oxygen demand (COD)	Yes		
3	Oil & Grease	Yes		
4	Phenolic Compounds as C6H5OH	Yes		
5	Benzopyrene	No		
6	**Pesticides**			
6.a	**Organochlorine Pesticides (OCPs) Tests**			
i	Aldrin	No		
ii	Alpha Endosulphan	No		
iii	p,p'-DDT	No		
iv	Alpha-HCH	No		
v	Beta HCH	No		
vi	Beta Endosulphan	No		
vii	Gama-HCH	No		
viii	o,p'-DDT	No		
ix	p,p'-DDE	No		
6.b	**Organophosphorus Pesticides (OPPs) Tests**			
i	Malathion	No		
ii	Methyl parathion	No		
iii	Chlorpyriphos	No		
iv	Dimethoate	No		

v	Dieldrin	No		
vi	Ethion	No		
(d) Microbiological Tests				
1	Total Coliform	Yes		
2	Faecal Coliform	Yes		
3	E. Coli	Yes		
4	Faecal Streptococci	Yes		
(e) Toxicological Tests				
1	Bioassay method for evaluation of toxicity using fish (90% survival of fish after 96 hrs in 100% effluent)	Yes		
B. Sample Matrix / Group of Solid / Solid Waste				
(a) Soil / Sediment / Compost Tests				
1	Cation Exchange Capacity (CEC)	Yes		
2	Electrical Conductivity (EC)	Yes		
3	Organic carbon (Chemical Method)	Yes		
4	pH	Yes		
5	Soil moisture	Yes		
6	Total nitrogen	Yes		
7	Metals by digestion (As, Cd, Cr, Pb, Ni etc.)	Yes		
(b) Hazardous Waste (Liquid / Slurry / Sludge / Solid / Semi-Solid) Tests				
1	Corrosivity	No		
2	Ignitability (Flash Point)	No		
3	Loss on Drying at 1050C (% Moisture Content)	Yes		
4	Loss on Drying at 5500C (% Organic Content)	Yes		
5	pH	Yes		
6	Organic carbon/matter (Chemical Method)	Yes		
7	Calorific Value	No		
8	Toxicity Characteristics leaching procedure (TCLP) Leachate and Metals in Leachate (As,Cd,Cr, Pb, Ni)	Yes		
C. Sample Matrix / Group of Analytes: Air				
(a) Ambient Air				
1	Nitrogen dioxide as NO2	Yes		
2	Sulphur dioxide (SO2)	Yes		
3	Particulate matter (PM10)	Yes		
4	Particulate matter (PM2.5)	Yes		
5	Carbon Monoxide	Yes		
6	Ozone	Yes		
7	Benzene	No		
8	Ammonia	Yes		
9	Metals in Particulate Matter, Pb	Yes		

10	Metals in Particulate Matter, As	Yes		
11	Metals in Particulate Matter, Ni	Yes		
12	Particulate Benzo-a-Pyrene (BaP)	No		
(b) Stack Gas / Stationary Source Emission				
1	Particulate Matter	NA*		
2	Sulphur Dioxide	NA*		
3	Carbon Dioxide	NA*		
4	Carbon Monoxide (NDIR based Method)	NA*		
5	Temperature	NA*		
6	Moisture	NA*		
7	Oxygen	NA*		
8	Oxides of Nitrogen	NA*		
9	Halides (HCL/HF)	NA*		
(c) Noise Level				
1	Ambient Noise level measurement (20 to 140 dB)	NA*		
2	Source Noise Level Measurement (Industrial process, DG set- 20 to 140dB)	NA*		
(d) Meteorological Monitoring				
1	Ambient Temperature	No		
2	Wind direction	No		
3	Wind speed	No		
4	Relative Humidity	No		
5	Mixing Height	No		

Specific remarks, if any:

NA* Stack Gas / Stationary Source Emission, Nose level are not under the jurisdiction /mandate of State Laboratories. However the information is filled up in Summary Sheet and Regulatroy division sheet

PART II: Details of Laboratory Infrastructure (Instruments and Equipment)

S. No.	Name of Instrument / Equipments	Available Yes / No	If the Instrument / Equipment is not available, Specify Timeline for procurement of this instrument (in months)	Action Taken for procurement of this Instrument / Equipment (Specification finalized / procurement initiated / work awarded / outsourced)
A. List of Instruments / Equipment for Sampling of Water, Wastewater and Soil / Hazardous Wastes				
a) Mandatory Requirements				
1	Portable / Pen type pH meter / pH strip	NA*		
2	Portable Dissolved Oxygen Meter / Field Fixing using chemicals	NA*		

3	Electrical Conductivity meter pen type	NA*		
4	Flow meter / Physical flow measuring	NA*		
5	GPS / Mobile with GPS app	NA*		
6	Ice Box (2 nos.) (150 litre & 100 litre capacities)	NA*		
7	Thermometer	NA*		
8	Stainless steel bucket with nylon rope and mug	NA*		
9	Ground water level measuring device	NA*		
10	Scoop / shovel	NA*		
11	Auger / core sampler	NA*		
b) Optional Requirements				
1	Bottom Sampler / Depth sampler	NA*		
2	Chloroscope for residual chlorine	NA*		
3	Vandorn or equivalent water sampler (Automatic sampler when composite sampling to be done)	NA*		
4	Ekman Dredge	NA*		
B. List of Instruments / Equipment for Sampling of Ambient Air and Source Emission monitoring				
a) Mandatory Requirements				
1	Fine dust samplers PM2.5 (*4 Nos)	NA*		
2	Respirable Dust Sampler PM 10 (* 4 Nos)	NA*		
3	High Volume Sampler (SPM) (4 Nos)	NA*		
4	Handy Sampler with set of glass impingers (*2 Nos)	NA*		
5	Low Volume Sampler (LVS)	NA*		
6	Tedler bags different sizes	NA*		
7	Meteorological tower (All in one telescopic Mast) with sensors comprising wind speed, wind direction, ambient temp., Relative humidity, Solar radiation, rainfall etc.	NA*		
8	Nitrogen Cylinder portable	NA*		
9	Activated Charcoal tubes/ Tenex	NA*		
10	Barometer (Digital)	NA*		
11	Isokinetic Stack Monitoring Kit complete with Stack monitoring instrument panel with inclined cum vertical manometer, Cold Box, Vacuum pump, Glass assembly impingers	NA*		
12	Modified S type Stainless steel Pitot tube (Standard length) with Assembly	NA*		
13	Monoblock type, rotary design vacuum pump	NA*		
14	Orsat Apparatus	NA*		

15	Source emission monitoring Impingers train set with spare impingers 100 ml & 225 ml capacity	NA*		
16	Stainless steel heated Sampling Probes with thimble holders short and long	NA*		
17	Flue Gas analyzer	NA*		
18	Thermometer/ Thermocouple	NA*		
19	Calibrator for Noise Meters	NA*		
20	Digital Sound level (Noise) Metres	NA*		
21	Portable TOC Analyzer for emission monitoring.	NA*		
22	Polyurethane Foam PUF Sampler	NA*		
b) Optional Requirements				
1	Anemometer	NA*		
2	Weather Monitoring system	NA*		
3	Wind speed/wind direction monitor	NA*		
4	Continuous Ambient Air Monitoring System, Fixed	NA*		
5	Continuous PM10 Analyzer	NA*		
6	Continuous Ambient Air Monitoring System, Mobile	NA*		
7	Continuous PM2.5 analyzer	NA*		
8	Ambient Nitrogen Oxides (NO-NO2-NOx Analyzer	NA*		
9	Ambient Ozone Analyzer	NA*		
10	Ambient BTEX Analyzer	NA*		
11	Multipoint Gas Calibration system	NA*		
12	Ambient Sulphur Dioxide analyzer	NA*		
13	Ambient Carbon Monoxide & Carbon dioxide analyzer	NA*		
14	Total Hydrocarbon analyzer	NA*		
15	Ambient Ammonia analyzer	NA*		
16	Zero Gas Generator	NA*		
17	Synthetic Air Cylinder	NA*		
18	Calibration Gas Cylinders, SO2, NO, CO, NH3B ,enzene and Toluene One each with stainless steel Regulators	NA*		
19	Continuous emission monitoring equipment	NA*		
20	19 inch Rack mounting system for air analyzers	NA*		
21	Dry Gas Meter	NA*		
22	Diesel Exhaust analyzer	NA*		
23	Exhaust CO/HC analyzer with Sampling Probe	NA*		
24	Automated Noise Monitoring System	NA*		
25	Integrating Sound level meter	NA*		

26	Continuous PM10& PM2.5 Monitoring Analyzer TEOM system	NA*		
27	Top loading orifice kit for calibration of HVS	NA*		
28	Permeation tubes (SO2, NO-NO2-NOx, NH3, BTX)	NA*		
C. List of Equipment required for processing of Environmental Samples:				
a) Mandatory Requirements				
1	Accelerated Solvent Extraction (ASE) System	**No**		
2	Ammonia distillation assembly/TKN Analyzer	**Yes**		
3	Analytical Balance 4/5 digit & 6 digit (Digital)	**Yes**		
4	Aquarium for Toxicity bioassay test with complete accessories (*4 Nos)	**Yes**		
5	Autoclave (*2 Nos)	**Yes**		
6	Bacteriological Incubators Stainless steel (*2 Nos)	**Yes**		
7	Bio safety cabinets	**Yes**		
8	BOD Incubators (2 nos.)	**Yes**		
9	Centrifuge	**No**		
10	COD Digestion heated Blocks (2) with capacity 16 nos. or more	**Yes**		
11	Cyanide Distillation Assembly (3)	**No**		
12	Deep Freezer- Capacity 500 litre	**Yes**		
13	Laboratory Ball Mill Grinder	**No**		
14	Laboratory Grinder	**Yes**		
15	Laminar Flow bench for Microbiological analysis	**Yes**		
16	Magnetic Stirrer with heating system (*2 Nos)	**Yes**		
17	Mechanical Shaker	**Yes**		
18	Membrane Filtration assembly with vacuum pump (2 nos.)	**Yes**		
19	Microbial culture refrigerator	**No**		
20	Microwave Digester with 16 vessels/ Hot Plate	**Yes**		
21	Muffle Furnace (*1 Nos), Range 1200 C	**Yes**		
22	Phenol distillation assembly (3)	**Yes**		
23	Plate counter, Manual/Automatic	**No**		
24	Digestion Chambers/ Fume hood	**Yes**		
25	Digital Thermometer & Humidity meter- All lab area	**Yes**		
26	Dispensers (Various capacities) up to 5, 10, 25 & 50 ml	**Yes**		
27	Filtration Assembly with vacuum pump	**Yes**		

28	Fluoride Distillation Assembly (3)	No		
29	Arsenic / Fluoride Glass Distillation assemblies	No		
30	Glass Double Distillation Assembly /Water Purification System	Yes		
31	Heating mantles (2 nos.)	Yes		
32	Hot plates (small, Medium and Large) (*2 nos.)	Yes		
33	Thermo Hygrometer	Yes		
34	Imhoff Cone	No		
35	Top loading Precision Digital Balance (minimum detection 0.001mg/0.01 mg) with anti-vibration facility- 3 nos. i.e 4/5 Digit (2 nos), - 6 Digit (1 no)	Yes		
36	Refrigerators Big Size 300 litres or more, double door- 2 nos.	Yes		
37	Rotary Evaporator (Buchi type) with water recirculating chiller	No		
38	Separating funnel shaker	No		
39	Soxhlet Apparatus	No		
40	Solid Phase Extraction (SPE) /SPME Extraction system	No		
41	Thermometer (Alcohol)	Yes		
42	Dry & wet bulb Thermometer	No		
43	Toxicity characteristic leaching procedure (TCLP) Extractors (Zero head and Bottle)	Yes		
44	Ultra sonic water bath- Capacity 3 litre	No		
45	Water Bath with temperature control (*2 Nos)	Yes		
46	Water Bath with temp. for mercury sample digestion- 20 BOD Bottles	No		
D. Analytical Instruments at Environmental Laboratories				
a) Mandatory Requirements				
1	Atomic Absorption spectrometer (AAS) - Flame, Hydride & Graphite Tube Atomizer (GTA)	Yes		
2	Binocular Stereo Zoom Microscope	No		
3	Bomb Calorimeter	No		
4	BTX Analyzer with BTX calibrator	No		
5	Colony counter	No		
6	Conductivity meter- 2 nos.	Yes		
7	Environment conditioning chamber	No		
8	Digital Burettes- 50 ml*2, 100 ml*2	No		
9	Dissolved Oxygen Meter (Bench model)	No		
10	Flame Photometer	Yes		
11	Flash Point Apparatus	No		

12	Gas Chromatograph Mass Spectrometer	No		
13	High Performance Liquid Chromatograph (HPLC)	No		
14	Inductively Coupled Plasma (ICP) Spectrometer-OES	No		
15	Ion Chromatograph Anion & Cations	No		
16	Methane and Non Methane (NMHC) Analyzer	No		
17	Microscope – 100x	Yes		
18	Microscope Binocular Research	No		
19	CO (NDIR based) Analyzer	Yes		
20	Nephelometer (Turbidity Meter)	Yes		
21	pH-Meter with combined electrode (3 point)- 2 nos.	Yes		
22	Specific ion Analyzer with ion selective electrodes	No		
23	Spectrophotometer Visible (Portable)	No		
24	TKN Analyzer semi-automatic with aluminum block digester	Yes		
25	UV-Vis Spectrophotometer	Yes		
26	Moisture Content Analyzer	No		
b) Optional Requirements				
1	Automatic Titration Assembly	No		
2	Carbon, Hydrogen, Nitrogen and Sulphur (CHNS) Elemental Analyzer	No		
3	EDXRF Analyzer/WDXRF Analyzer	No		
4	Fourier-transform infrared Spectrometer (FTIR)	No		
5	Flocculator (Jar testing apparatus)	No		
6	Toxic Gas Analyzer	No		
7	Organic Halogen (AOX/TOX) Analyzer	No		
8	TOC Analyzer	No		
9	High Resolution Mass Spectrometer (HRGC-HRMS)	No		
10	Inductively Coupled Plasma Mass (ICP-MS) Spectrometer	No		
11	X Ray Fluorescence (XRF) Spectrometer (Portable)	No		

Specific remarks, if any: NA* List of Instruments / Equipment for Sampling of Water, Wastewater and Soil / Hazardous Wastes Ambient Air and Source Emission monitoring are not under the jurisdiction /mandate of State Laboratories. However the information is filled up in Summary Sheet and Regulatroy division sheet

PART I: Facility available for monitoring of environmental parameters:

Parameters	Total Number of Parameters	Facility available for	Facility not available for	
A. Sample Matrix / Group of Water and Wastewater	**67**	**48**	**19**	**0**
(a) Physical Tests	8	8	0	**0**
(b) Inorganic Tests	**34**	**31**	**3**	
(i) General & Non-metallic	15	14	1	**0**
(ii) Trace Metals Tests	19	17	2	**0**
(c) Organics (General) and Trace Organics Tests	**20**	**4**	**16**	
Pesticides	15	0	15	**0**
Organochlorine Pesticides (OCPs) Tests	9	0	9	**0**
Organophosphorus Pesticides (OPPs) Tests	6	0	6	**0**
(d) Microbiological Tests	**4**	**4**	**0**	**0**
(e) Toxicological Tests	**1**	**1**	**0**	**0**
B. Sample Matrix / Group of Solid / Solid Waste	**15**	**12**	**3**	
(a) Soil / Sediment / Compost Tests	7	7	0	**0**
(b) Hazardous Waste (Liquid / Slurry / Sludge / Solid / Semi-Solid) Tests	8	5	3	**0**
C. Sample Matrix / Group of Analytes: Air	**28**	**10**	**7**	
(a) Ambient Air	12	10	2	**0**
(b) Stack Gas / Stationary Source Emission	9	0	0	**9**
(c) Noise Level	2	0	0	**2**
(d) Meteorological Monitoring	5	0	5	**0**

PART II: Details of Laboratory Infrastructure (Instruments and Equipment)

Name of Instrument / Equipments	Total Numbers	Number of Available	Number of Not Available	
Total	**148**	**39**	**44**	**65**
A. List of Instruments / Equipment for Sampling of Water, Wastewater and Soil / Hazardous Wastes	**15**	**0**	**0**	
a) Mandatory Requirements	11	0	0	**11**
b) Optional Requirements	4	0	0	**4**

			B. List of Instruments / Equipment for Sampling of Ambient Air and Source Emission monitoring	**50**	**0**	**0**	
			a) Mandatory Requirements	22	0	0	**22**
			b) Optional Requirements	28	0	0	**28**
			C. List of Equipment required for processing of Environmental Samples:	**46**	**30**	**16**	
			a) Mandatory Requirements	46	30	16	**0**
			D. Analytical Instruments at Environmental Laboratories	**37**	**9**	**28**	
			a) Mandatory Requirements	26	9	17	**0**
			b) Optional Requirements	11	0	11	**0**

Note: It is requested to please ensure that each sheet is created separately for each laboratory and rename the sheet accordingly . For e.g. Central Laboratory, Regional Laboratory etc

LABORATORY ANALYTICAL FACILITIES

Name of the Board / Committee: RL Shimla

PART I: Facility available for monitoring of environmental parameters:

S. No.	Parameters	Facilities Available (Yes / No)	If facility is not available, Specify Timeline for addition of this parameter. (in months)	Action Taken for addition of this parameter (Specification finalized / procurement initiated / work awarded / outsourced)
A. Sample Matrix / Group of Water and Wastewater				
(a) Physical Tests				
1	Temperature	Yes		
2	Colour	No		
3	pH	Yes		
4	Turbidity	Yes		
5	Conductivity	Yes		
6	Total Solids	Yes		
7	Total Dissolved Solids (TDS)	Yes		
8	Total Suspended Solids (TSS)	Yes		
(b) Inorganic Tests				
(i) General & Non-metallic				
1	Alkalinity	Yes		
2	Chloride	Yes		
3	Cyanide	No		
4	Dissolved oxygen	Yes		
5	Nitrite nitrogen	Yes		
6	Nitrate nitrogen	Yes		
7	Ammonical nitrogen	Yes		
8	Fluoride	Yes		
9	Hardness (Total)	Yes		
10	Calcium	Yes		
11	Magnesium	Yes		
12	Phosphate	Yes		
13	Sulphate	Yes		
14	Sulphide	Yes		

15	Total Residual chlorine (TRC)	Yes		
(ii) Trace Metals Tests				
1	Aluminium (Al)	No		
2	Arsenic (As) Total	Yes		
3	Barium	No		
4	Boron	Yes		
5	Chromium (Cr) Hexavalent	Yes		
6	Chromium (Cr) Total	Yes		
7	Cadmium (Cd)	Yes		
8	Cobalt (Co)	No		
9	Copper (Cu)	Yes		
10	Iron (Fe)	Yes		
11	Lead (Pb)	Yes		
12	Manganese (Mn)	Yes		
13	Mercury (Hg)	Yes		
14	Nickel (Ni)	Yes		
15	Potassium (K)	Yes		
16	Sodium (Na)	Yes		
17	Vanadium (V)	No		
18	Zinc (Zn)	Yes		
19	Selenium (Se)	No		
(c) Organics (General) and Trace Organics Tests				
1	Biological Oxygen Demand (BOD)	Yes		
2	Chemical oxygen demand (COD)	Yes		
3	Oil & Grease	Yes		
4	Phenolic Compounds as C6H5OH	Yes		
5	Benzopyrene	No		
6	**Pesticides**			
6.a	**Organochlorine Pesticides (OCPs) Tests**			
i	Aldrin	No		
ii	Alpha Endosulphan	No		
iii	p,p'-DDT	No		
iv	Alpha-HCH	No		
v	Beta HCH	No		
vi	Beta Endosulphan	No		
vii	Gama-HCH	No		
viii	o,p'-DDT	No		
ix	p,p'-DDE	No		
6.b	**Organophosphorus Pesticides (OPPs) Tests**			
i	Malathion	No		
ii	Methyl parathion	No		
iii	Chlorpyriphos	No		
iv	Dimethoate	No		

v	Dieldrin	No		
vi	Ethion	No		
(d) Microbiological Tests				
1	Total Coliform	Yes		
2	Faecal Coliform	Yes		
3	E. Coli	Yes		
4	Faecal Streptococci	Yes		
(e) Toxicological Tests				
1	Bioassay method for evaluation of toxicity using fish (90% survival of fish after 96 hrs in 100% effluent)	No		
B. Sample Matrix / Group of Solid / Solid Waste				
(a) Soil / Sediment / Compost Tests				
1	Cation Exchange Capacity (CEC)	Yes		
2	Electrical Conductivity (EC)	Yes		
3	Organic carbon (Chemical Method)	Yes		
4	pH	Yes		
5	Soil moisture	Yes		
6	Total nitrogen	Yes		
7	Metals by digestion (As, Cd, Cr, Pb, Ni etc.)	Yes		
(b) Hazardous Waste (Liquid / Slurry / Sludge / Solid / Semi-Solid) Tests				
1	Corrosivity	No		
2	Ignitability (Flash Point)	No		
3	Loss on Drying at 1050C (% Moisture Content)	No		
4	Loss on Drying at 5500C (% Organic Content)	No		
5	pH	No		
6	Organic carbon/matter (Chemical Method)	No		
7	Calorific Value			
8	Toxicity Characteristics leaching procedure (TCLP) Leachate and Metals in Leachate (As,Cd,Cr, Pb, Ni)	Yes		
C. Sample Matrix / Group of Analytes: Air				
(a) Ambient Air				
1	Nitrogen dioxide as NO2	Yes		
2	Sulphur dioxide (SO2)	Yes		
3	Particulate matter (PM10)	Yes		
4	Particulate matter (PM2.5)	Yes		
5	Carbon Monoxide	No		
6	Ozone	Yes		
7	Benzene	No		
8	Ammonia	Yes		
9	Metals in Particulate Matter, Pb	Yes		

10	Metals in Particulate Matter, As	**Yes**		
11	Metals in Particulate Matter, Ni	**Yes**		
12	Particulate Benzo-a-Pyrene (BaP)	No		
(b) Stack Gas / Stationary Source Emission				
1	Particulate Matter	NA*		
2	Sulphur Dioxide	NA*		
3	Carbon Dioxide	NA*		
4	Carbon Monoxide (NDIR based Method)	NA*		
5	Temperature	NA*		
6	Moisture	NA*		
7	Oxygen	NA*		
8	Oxides of Nitrogen	NA*		
9	Halides (HCL/HF)	NA*		
(c) Noise Level				
1	Ambient Noise level measurement (20 to 140 dB)	NA*		
2	Source Noise Level Measurement (Industrial process, DG set- 20 to 140dB)	NA*		
(d) Meteorological Monitoring				
1	Ambient Temperature	**Yes**		
2	Wind direction	**Yes**		
3	Wind speed	**Yes**		
4	Relative Humidity	**Yes**		
5	Mixing Height	**No**		

Specific remarks, if any:

NA* Stack Gas / Stationary Source Emission, Nose level are not under the jurisdiction /mandate of State Laboratories. However the information is filled up in Summary Sheet and Regulatroy division sheet

PART II: Details of Laboratory Infrastructure (Instruments and Equipment)

S. No.	Name of Instrument / Equipments	Available Yes / No	If the Instrument / Equipment is not available, Specify Timeline for procurement of this instrument (in months)	Action Taken for procurement of this Instrument / Equipment (Specification finalized / procurement initiated / work awarded / outsourced)
A. List of Instruments / Equipment for Sampling of Water, Wastewater and Soil / Hazardous Wastes				
a) Mandatory Requirements				
1	Portable / Pen type pH meter / pH strip	NA*		
2	Portable Dissolved Oxygen Meter / Field Fixing using chemicals	NA*		

3	Electrical Conductivity meter pen type	NA*		
4	Flow meter / Physical flow measuring	NA*		
5	GPS / Mobile with GPS app	NA*		
6	Ice Box (2 nos.) (150 litre & 100 litre capacities)	NA*		
7	Thermometer	NA*		
8	Stainless steel bucket with nylon rope and mug	NA*		
9	Ground water level measuring device	NA*		
10	Scoop / shovel	NA*		
11	Auger / core sampler	NA*		
b) Optional Requirements				
1	Bottom Sampler / Depth sampler	NA*		
2	Chloroscope for residual chlorine	NA*		
3	Vandorn or equivalent water sampler (Automatic sampler when composite sampling to be done)	NA*		
4	Ekman Dredge	NA*		
B. List of Instruments / Equipment for Sampling of Ambient Air and Source Emission monitoring				
a) Mandatory Requirements				
1	Fine dust samplers PM2.5 (*4 Nos)	NA*		
2	Respirable Dust Sampler PM 10 (* 4 Nos)	NA*		
3	High Volume Sampler (SPM) (4 Nos)	NA*		
4	Handy Sampler with set of glass impingers (*2 Nos)	NA*		
5	Low Volume Sampler (LVS)	NA*		
6	Tedler bags different sizes	NA*		
7	Meteorological tower (All in one telescopic Mast) with sensors comprising wind speed, wind direction, ambient temp., Relative humidity, Solar radiation, rainfall etc.	NA*		
8	Nitrogen Cylinder portable	NA*		
9	Activated Charcoal tubes/ Tenex	NA*		
10	Barometer (Digital)	NA*		
11	Isokinetic Stack Monitoring Kit complete with Stack monitoring instrument panel with inclined cum vertical manometer, Cold Box, Vacuum pump, Glass assembly impingers	NA*		
12	Modified S type Stainless steel Pitot tube (Standard length) with Assembly	NA*		
13	Monoblock type, rotary design vacuum pump	NA*		
14	Orsat Apparatus	NA*		

15	Source emission monitoring Impingers train set with spare impingers 100 ml & 225 ml capacity	NA*		
16	Stainless steel heated Sampling Probes with thimble holders short and long	NA*		
17	Flue Gas analyzer	NA*		
18	Thermometer/ Thermocouple	NA*		
19	Calibrator for Noise Meters	NA*		
20	Digital Sound level (Noise) Metres	NA*		
21	Portable TOC Analyzer for emission monitoring.	NA*		
22	Polyurethane Foam PUF Sampler	NA*		
b) Optional Requirements				
1	Anemometer	NA*		
2	Weather Monitoring system	NA*		
3	Wind speed/wind direction monitor	NA*		
4	Continuous Ambient Air Monitoring System, Fixed	NA*		
5	Continuous PM10 Analyzer	NA*		
6	Continuous Ambient Air Monitoring System, Mobile	NA*		
7	Continuous PM2.5 analyzer	NA*		
8	Ambient Nitrogen Oxides (NO-NO2-NOx Analyzer	NA*		
9	Ambient Ozone Analyzer	NA*		
10	Ambient BTEX Analyzer	NA*		
11	Multipoint Gas Calibration system	NA*		
12	Ambient Sulphur Dioxide analyzer	NA*		
13	Ambient Carbon Monoxide & Carbon dioxide analyzer	NA*		
14	Total Hydrocarbon analyzer	NA*		
15	Ambient Ammonia analyzer	NA*		
16	Zero Gas Generator	NA*		
17	Synthetic Air Cylinder	NA*		
18	Calibration Gas Cylinders, SO2, NO, CO, NH3B ,enzene and Toluene One each with stainless steel Regulators	NA*		
19	Continuous emission monitoring equipment	NA*		
20	19 inch Rack mounting system for air analyzers	NA*		
21	Dry Gas Meter	NA*		
22	Diesel Exhaust analyzer	NA*		
23	Exhaust CO/HC analyzer with Sampling Probe	NA*		
24	Automated Noise Monitoring System	NA*		
25	Integrating Sound level meter	NA*		

26	Continuous PM10& PM2.5 Monitoring Analyzer TEOM system	NA*		
27	Top loading orifice kit for calibration of HVS	NA*		
28	Permeation tubes (SO2, NO-NO2-NOx, NH3, BTX)	NA*		
C. List of Equipment required for processing of Environmental Samples:				
a) Mandatory Requirements				
1	Accelerated Solvent Extraction (ASE) System	**No**		
2	Ammonia distillation assembly/TKN Analyzer	**Yes**		
3	Analytical Balance 4/5 digit & 6 digit (Digital)	**No**		
4	Aquarium for Toxicity bioassay test with complete accessories (*4 Nos)			
5	Autoclave (*2 Nos)	**Yes**		
6	Bacteriological Incubators Stainless steel (*2 Nos)	**Yes**		
7	Bio safety cabinets	**Yes**		
8	BOD Incubators (2 nos.)	**Yes**		
9	Centrifuge			
10	COD Digestion heated Blocks (2) with capacity 16 nos. or more	**Yes**		
11	Cyanide Distillation Assembly (3)	**No**		
12	Deep Freezer- Capacity 500 litre	**Yes**		
13	Laboratory Ball Mill Grinder	**No**		
14	Laboratory Grinder	**No**		
15	Laminar Flow bench for Microbiological analysis	**Yes**		
16	Magnetic Stirrer with heating system (*2 Nos)	**Yes**		
17	Mechanical Shaker	**Yes**		
18	Membrane Filtration assembly with vacuum pump (2 nos.)	**Yes**		
19	Microbial culture refrigerator	**Yes**		
20	Microwave Digester with 16 vessels/ Hot Plate	**No**		
21	Muffle Furnace (*1 Nos), Range 1200 C	**Yes**		
22	Phenol distillation assembly (3)	**Yes**		
23	Plate counter, Manual/Automatic	**No**		
24	Digestion Chambers/ Fume hood	**Yes**		
25	Digital Thermometer & Humidity meter- All lab area	**Yes**		
26	Dispensers (Various capacities) up to 5, 10, 25 & 50 ml	**Yes**		
27	Filtration Assembly with vacuum pump	**Yes**		

28	Fluoride Distillation Assembly (3)	No		
29	Arsenic / Fluoride Glass Distillation assemblies	No		
30	Glass Double Distillation Assembly /Water Purification System	Yes		
31	Heating mantles (2 nos.)	Yes		
32	Hot plates (small, Medium and Large) (*2 nos.)	Yes		
33	Thermo Hygrometer	Yes		
34	Imhoff Cone	No		
35	Top loading Precision Digital Balance (minimum detection 0.001mg/0.01 mg) with anti-vibration facility- 3 nos. i.e 4/5 Digit (2 nos), - 6 Digit (1 no)	No		
36	Refrigerators Big Size 300 litres or more, double door- 2 nos.	Yes		
37	Rotary Evaporator (Buchi type) with water recirculating chiller	No		
38	Separating funnel shaker	No		
39	Soxhlet Apparatus	No		
40	Solid Phase Extraction (SPE) /SPME Extraction system	No		
41	Thermometer (Alcohol)	Yes		
42	Dry & wet bulb Thermometer	Yes		
43	Toxicity characteristic leaching procedure (TCLP) Extractors (Zero head and Bottle)	No		
44	Ultra sonic water bath- Capacity 3 litre	No		
45	Water Bath with temperature control (*2 Nos)	Yes		
46	Water Bath with temp. for mercury sample digestion- 20 BOD Bottles	No		
D. Analytical Instruments at Environmental Laboratories				
a) Mandatory Requirements				
1	Atomic Absorption spectrometer (AAS) - Flame, Hydride & Graphite Tube Atomizer (GTA)	Yes		
2	Binocular Stereo Zoom Microscope	No		
3	Bomb Calorimeter	No		
4	BTX Analyzer with BTX calibrator	No		
5	Colony counter	No		
6	Conductivity meter- 2 nos.	Yes		
7	Environment conditioning chamber	No		
8	Digital Burettes- 50 ml*2, 100 ml*2	No		
9	Dissolved Oxygen Meter (Bench model)	No		
10	Flame Photometer	Yes		
11	Flash Point Apparatus	No		

12	Gas Chromatograph Mass Spectrometer	No		
13	High Performance Liquid Chromatograph (HPLC)	No		
14	Inductively Coupled Plasma (ICP) Spectrometer-OES	No		
15	Ion Chromatograph Anion & Cations	No		
16	Methane and Non Methane (NMHC) Analyzer	No		
17	Microscope – 100x	No		
18	Microscope Binocular Research	No		
19	CO (NDIR based) Analyzer	No		
20	Nephelometer (Turbidity Meter)	Yes		
21	pH-Meter with combined electrode (3 point)- 2 nos.	Yes		
22	Specific ion Analyzer with ion selective electrodes	No		
23	Spectrophotometer Visible (Portable)	Yes		
24	TKN Analyzer semi-automatic with aluminum block digester	Yes		
25	UV-Vis Spectrophotometer	Yes		
26	Moisture Content Analyzer	No		
b) Optional Requirements				
1	Automatic Titration Assembly	No		
2	Carbon, Hydrogen, Nitrogen and Sulphur (CHNS) Elemental Analyzer	No		
3	EDXRF Analyzer/WDXRF Analyzer	No		
4	Fourier-transform infrared Spectrometer (FTIR)	No		
5	Flocculator (Jar testing apparatus)	No		
6	Toxic Gas Analyzer	No		
7	Organic Halogen (AOX/TOX) Analyzer	No		
8	TOC Analyzer	No		
9	High Resolution Mass Spectrometer (HRGC-HRMS)	No		
10	Inductively Coupled Plasma Mass (ICP-MS) Spectrometer	No		
11	X Ray Fluorescence (XRF) Spectrometer (Portable)	No		

Specific remarks, if any: NA* List of Instruments / Equipment for Sampling of Water, Wastewater and Soil / Hazardous Wastes Ambient Air and Source Emission monitoring are not under the jurisdiction /mandate of State Laboratories. However the information is filled up in Summary Sheet and Regulatroy division sheet

PART I: Facility available for monitoring of environmental parameters:

Parameters	Total Number of Parameters	Facility available for	Facility not available for	
A. Sample Matrix / Group of Water and Wastewater	**67**	**43**	**24**	**0**
(a) Physical Tests	8	7	1	**0**
(b) Inorganic Tests	**34**	**28**	**6**	
(i) General & Non-metallic	15	14	1	**0**
(ii) Trace Metals Tests	19	14	5	**0**
(c) Organics (General) and Trace Organics Tests	**20**	**4**	**16**	
Pesticides	15	0	15	**0**
Organochlorine Pesticides (OCPs) Tests	9	0	9	**0**
Organophosphorus Pesticides (OPPs) Tests	6	0	6	**0**
(d) Microbiological Tests	**4**	**4**	**0**	**0**
(e) Toxicological Tests	**1**	**0**	**1**	**0**
B. Sample Matrix / Group of Solid / Solid Waste	**15**	**8**	**6**	
(a) Soil / Sediment / Compost Tests	7	7	0	**0**
(b) Hazardous Waste (Liquid / Slurry / Sludge / Solid / Semi-Solid) Tests	8	1	6	**1**
C. Sample Matrix / Group of Analytes: Air	**28**	**13**	**4**	
(a) Ambient Air	12	9	3	**0**
(b) Stack Gas / Stationary Source Emission	9	0	0	**9**
(c) Noise Level	2	0	0	**2**
(d) Meteorological Monitoring	5	4	1	**0**

PART II: Details of Laboratory Infrastructure (Instruments and Equipment)

Name of Instrument / Equipments	Total Numbers	Number of Available	Number of Not Available	
Total	**148**	**34**	**47**	**67**
A. List of Instruments / Equipment for Sampling of Water, Wastewater and Soil / Hazardous Wastes	**15**	**0**	**0**	
a) Mandatory Requirements	11	0	0	**11**
b) Optional Requirements	4	0	0	**4**

			B. List of Instruments / Equipment for Sampling of Ambient Air and Source Emission monitoring	**50**	**0**	**0**	
			a) Mandatory Requirements	22	0	0	**22**
			b) Optional Requirements	28	0	0	**28**
			C. List of Equipment required for processing of Environmental Samples:	**46**	**26**	**18**	
			a) Mandatory Requirements	46	26	18	**2**
			D. Analytical Instruments at Environmental Laboratories	**37**	**8**	**29**	
			a) Mandatory Requirements	26	8	18	**0**
			b) Optional Requirements	11	0	11	**0**

Note: It is requested to please ensure that each sheet is created separately for each laboratory and rename the sheet accordingly . For e.g. Central Laboratory, Regional Laboratory etc

LABORATORY ANALYTICAL FACILITIES

Name of the Board / Committee: **RL Una**

PART I: Facility available for monitoring of environmental parameters:

S. No.	Parameters	Facilities Available (Yes / No)	If facility is not available, Specify Timeline for addition of this parameter. (in months)	Action Taken for addition of this parameter (Specification finalized / procurement initiated / work awarded / outsourced)
A. Sample Matrix / Group of Water and Wastewater				
(a) Physical Tests				
1	Temperature	Yes		
2	Colour	Yes		
3	pH	Yes		
4	Turbidity	Yes		
5	Conductivity	Yes		
6	Total Solids	Yes		
7	Total Dissolved Solids (TDS)	Yes		
8	Total Suspended Solids (TSS)	Yes		
(b) Inorganic Tests				
(i) General & Non-metallic				
1	Alkalinity	Yes		
2	Chloride	Yes		
3	Cyanide	No		
4	Dissolved oxygen	Yes		
5	Nitrite nitrogen	Yes		
6	Nitrate nitrogen	Yes		
7	Ammonical nitrogen	Yes		
8	Fluoride	Yes		
9	Hardness (Total)	Yes		
10	Calcium	Yes		
11	Magnesium	Yes		
12	Phosphate	Yes		
13	Sulphate	Yes		
14	Sulphide	Yes		

15	Total Residual chlorine (TRC)	Yes		
(ii) Trace Metals Tests				
1	Aluminium (Al)	No		
2	Arsenic (As) Total	No		
3	Barium	No		
4	Boron	Yes		
5	Chromium (Cr) Hexavalent	Yes		
6	Chromium (Cr) Total	No		
7	Cadmium (Cd)	No		
8	Cobalt (Co)	No		
9	Copper (Cu)	No		
10	Iron (Fe)	No		
11	Lead (Pb)	No		
12	Manganese (Mn)	No		
13	Mercury (Hg)	No		
14	Nickel (Ni)	No		
15	Potassium (K)	Yes		
16	Sodium (Na)	Yes		
17	Vanadium (V)	No		
18	Zinc (Zn)	No		
19	Selenium (Se)			
(c) Organics (General) and Trace Organics Tests				
1	Biological Oxygen Demand (BOD)	Yes		
2	Chemical oxygen demand (COD)	Yes		
3	Oil & Grease	Yes		
4	Phenolic Compounds as C6H5OH	Yes		
5	Benzopyrene	No		
6	**Pesticides**			
6.a	**Organochlorine Pesticides (OCPs) Tests**			
i	Aldrin	No		
ii	Alpha Endosulphan	No		
iii	p,p'-DDT	No		
iv	Alpha-HCH	No		
v	Beta HCH	No		
vi	Beta Endosulphan	No		
vii	Gama-HCH	No		
viii	o,p'-DDT	No		
ix	p,p'-DDE	No		
6.b	**Organophosphorus Pesticides (OPPs) Tests**			
i	Malathion	No		
ii	Methyl parathion	No		
iii	Chlorpyriphos	No		
iv	Dimethoate	No		

v	Dieldrin	No		
vi	Ethion	No		
(d) Microbiological Tests				
1	Total Coliform	Yes		
2	Faecal Coliform	Yes		
3	E. Coli	No		
4	Faecal Streptococci	Yes		
(e) Toxicological Tests				
1	Bioassay method for evaluation of toxicity using fish (90% survival of fish after 96 hrs in 100% effluent)	No		
B. Sample Matrix / Group of Solid / Solid Waste				
(a) Soil / Sediment / Compost Tests				
1	Cation Exchange Capacity (CEC)	Yes		
2	Electrical Conductivity (EC)	Yes		
3	Organic carbon (Chemical Method)	Yes		
4	pH	Yes		
5	Soil moisture	Yes		
6	Total nitrogen	No		
7	Metals by digestion (As, Cd, Cr, Pb, Ni etc.)	No		
(b) Hazardous Waste (Liquid / Slurry / Sludge / Solid / Semi-Solid) Tests				
1	Corrosivity	No		
2	Ignitability (Flash Point)	No		
3	Loss on Drying at 1050C (% Moisture Content)	Yes		
4	Loss on Drying at 5500C (% Organic Content)	No		
5	pH	Yes		
6	Organic carbon/matter (Chemical Method)	Yes		
7	Calorific Value	No		
8	Toxicity Characteristics leaching procedure (TCLP) Leachate and Metals in Leachate (As,Cd,Cr, Pb, Ni)	No		
C. Sample Matrix / Group of Analytes: Air				
(a) Ambient Air				
1	Nitrogen dioxide as NO2	Yes		
2	Sulphur dioxide (SO2)	Yes		
3	Particulate matter (PM10)	Yes		
4	Particulate matter (PM2.5)	Yes		
5	Carbon Monoxide	Yes		
6	Ozone	Yes		
7	Benzene	No		
8	Ammonia	Yes		
9	Metals in Particulate Matter, Pb	No		

10	Metals in Particulate Matter, As	No		
11	Metals in Particulate Matter, Ni	No		
12	Particulate Benzo-a-Pyrene (BaP)	No		
(b) Stack Gas / Stationary Source Emission				
1	Particulate Matter	NA*		
2	Sulphur Dioxide	NA*		
3	Carbon Dioxide	NA*		
4	Carbon Monoxide (NDIR based Method)	NA*		
5	Temperature	NA*		
6	Moisture	NA*		
7	Oxygen	NA*		
8	Oxides of Nitrogen	NA*		
9	Halides (HCL/HF)	NA*		
(c) Noise Level				
1	Ambient Noise level measurement (20 to 140 dB)	NA*		
2	Source Noise Level Measurement (Industrial process, DG set- 20 to 140dB)	NA*		
(d) Meteorological Monitoring				
1	Ambient Temperature	Yes		
2	Wind direction	No		
3	Wind speed	No		
4	Relative Humidity	Yes		
5	Mixing Height	No		

Specific remarks, if any:

NA* Stack Gas / Stationary Source Emission, Nose level are not under the jurisdiction /mandate of State Laboratories. However the information is filled up in Summary Sheet and Regulatroy division sheet

PART II: Details of Laboratory Infrastructure (Instruments and Equipment)

S. No.	Name of Instrument / Equipments	Available Yes / No	If the Instrument / Equipment is not available, Specify Timeline for procurement of this instrument (in months)	Action Taken for procurement of this Instrument / Equipment (Specification finalized / procurement initiated / work awarded / outsourced)
A. List of Instruments / Equipment for Sampling of Water, Wastewater and Soil / Hazardous Wastes				
a) Mandatory Requirements				
1	Portable / Pen type pH meter / pH strip	NA*		
2	Portable Dissolved Oxygen Meter / Field Fixing using chemicals	NA*		

3	Electrical Conductivity meter pen type	NA*		
4	Flow meter / Physical flow measuring	NA*		
5	GPS / Mobile with GPS app	NA*		
6	Ice Box (2 nos.) (150 litre & 100 litre capacities)	NA*		
7	Thermometer	NA*		
8	Stainless steel bucket with nylon rope and mug	NA*		
9	Ground water level measuring device	NA*		
10	Scoop / shovel	NA*		
11	Auger / core sampler	NA*		
b) Optional Requirements				
1	Bottom Sampler / Depth sampler	NA*		
2	Chloroscope for residual chlorine	NA*		
3	Vandorn or equivalent water sampler (Automatic sampler when composite sampling to be done)	NA*		
4	Ekman Dredge	NA*		
B. List of Instruments / Equipment for Sampling of Ambient Air and Source Emission monitoring				
a) Mandatory Requirements				
1	Fine dust samplers PM2.5 (*4 Nos)	NA*		
2	Respirable Dust Sampler PM 10 (* 4 Nos)	NA*		
3	High Volume Sampler (SPM) (4 Nos)	NA*		
4	Handy Sampler with set of glass impingers (*2 Nos)	NA*		
5	Low Volume Sampler (LVS)	NA*		
6	Tedler bags different sizes	NA*		
7	Meteorological tower (All in one telescopic Mast) with sensors comprising wind speed, wind direction, ambient temp., Relative humidity, Solar radiation, rainfall etc.	NA*		
8	Nitrogen Cylinder portable	NA*		
9	Activated Charcoal tubes/ Tenex	NA*		
10	Barometer (Digital)	NA*		
11	Isokinetic Stack Monitoring Kit complete with Stack monitoring instrument panel with inclined cum vertical manometer, Cold Box, Vacuum pump, Glass assembly impingers	NA*		
12	Modified S type Stainless steel Pitot tube (Standard length) with Assembly	NA*		
13	Monoblock type, rotary design vacuum pump	NA*		
14	Orsat Apparatus	NA*		

15	Source emission monitoring Impingers train set with spare impingers 100 ml & 225 ml capacity	NA*		
16	Stainless steel heated Sampling Probes with thimble holders short and long	NA*		
17	Flue Gas analyzer	NA*		
18	Thermometer/ Thermocouple	NA*		
19	Calibrator for Noise Meters	NA*		
20	Digital Sound level (Noise) Metres	NA*		
21	Portable TOC Analyzer for emission monitoring.	NA*		
22	Polyurethane Foam PUF Sampler	NA*		
b) Optional Requirements				
1	Anemometer	NA*		
2	Weather Monitoring system	NA*		
3	Wind speed/wind direction monitor	NA*		
4	Continuous Ambient Air Monitoring System, Fixed	NA*		
5	Continuous PM10 Analyzer	NA*		
6	Continuous Ambient Air Monitoring System, Mobile	NA*		
7	Continuous PM2.5 analyzer	NA*		
8	Ambient Nitrogen Oxides (NO-NO2-NOx Analyzer	NA*		
9	Ambient Ozone Analyzer	NA*		
10	Ambient BTEX Analyzer	NA*		
11	Multipoint Gas Calibration system	NA*		
12	Ambient Sulphur Dioxide analyzer	NA*		
13	Ambient Carbon Monoxide & Carbon dioxide analyzer	NA*		
14	Total Hydrocarbon analyzer	NA*		
15	Ambient Ammonia analyzer	NA*		
16	Zero Gas Generator	NA*		
17	Synthetic Air Cylinder	NA*		
18	Calibration Gas Cylinders, SO2, NO, CO, NH3B ,enzene and Toluene One each with stainless steel Regulators	NA*		
19	Continuous emission monitoring equipment	NA*		
20	19 inch Rack mounting system for air analyzers	NA*		
21	Dry Gas Meter	NA*		
22	Diesel Exhaust analyzer	NA*		
23	Exhaust CO/HC analyzer with Sampling Probe	NA*		
24	Automated Noise Monitoring System	NA*		
25	Integrating Sound level meter	NA*		

26	Continuous PM10& PM2.5 Monitoring Analyzer TEOM system	NA*		
27	Top loading orifice kit for calibration of HVS	NA*		
28	Permeation tubes (SO2, NO-NO2-NOx, NH3, BTX)	NA*		
C. List of Equipment required for processing of Environmental Samples:				
a) Mandatory Requirements				
1	Accelerated Solvent Extraction (ASE) System	---		
2	Ammonia distillation assembly/TKN Analyzer	**No**		
3	Analytical Balance 4/5 digit & 6 digit (Digital)	**Yes**		
4	Aquarium for Toxicity bioassay test with complete accessories (*4 Nos)	**No**		
5	Autoclave (*2 Nos)	**No**		
6	Bacteriological Incubators Stainless steel (*2 Nos)	**Yes**		
7	Bio safety cabinets	---		
8	BOD Incubators (2 nos.)	**No**		
9	Centrifuge	**No**		
10	COD Digestion heated Blocks (2) with capacity 16 nos. or more	**No**		
11	Cyanide Distillation Assembly (3)	**No**		
12	Deep Freezer- Capacity 500 litre	**No**		
13	Laboratory Ball Mill Grinder	**No**		
14	Laboratory Grinder	**No**		
15	Laminar Flow bench for Microbiological analysis	**Yes**		
16	Magnetic Stirrer with heating system (*2 Nos)	**No**		
17	Mechanical Shaker	**No**		
18	Membrane Filtration assembly with vacuum pump (2 nos.)	**No**		
19	Microbial culture refrigerator	**No**		
20	Microwave Digester with 16 vessels/ Hot Plate	**Yes**		
21	Muffle Furnace (*1 Nos), Range 1200 C	**No**		
22	Phenol distillation assembly (3)	**No**		
23	Plate counter, Manual/Automatic			
24	Digestion Chambers/ Fume hood	**Yes**		
25	Digital Thermometer & Humidity meter- All lab area	**Yes**		
26	Dispensers (Various capacities) up to 5, 10, 25 & 50 ml	**No**		
27	Filtration Assembly with vacuum pump	**Yes**		

28	Fluoride Distillation Assembly (3)	No		
29	Arsenic / Fluoride Glass Distillation assemblies	No		
30	Glass Double Distillation Assembly /Water Purification System	Yes		
31	Heating mantles (2 nos.)	No		
32	Hot plates (small, Medium and Large) (*2 nos.)	No		
33	Thermo Hygrometer	Yes		
34	Imhoff Cone	---		
35	Top loading Precision Digital Balance (minimum detection 0.001mg/0.01 mg) with anti-vibration facility- 3 nos. i.e 4/5 Digit (2 nos), - 6 Digit (1 no)	No		
36	Refrigerators Big Size 300 litres or more, double door- 2 nos.	Yes		
37	Rotary Evaporator (Buchi type) with water recirculating chiller	No		
38	Separating funnel shaker	No		
39	Soxhlet Apparatus	---		
40	Solid Phase Extraction (SPE) /SPME Extraction system	---		
41	Thermometer (Alcohol)	Yes		
42	Dry & wet bulb Thermometer	Yes		
43	Toxicity characteristic leaching procedure (TCLP) Extractors (Zero head and Bottle)	No		
44	Ultra sonic water bath- Capacity 3 litre	No		
45	Water Bath with temperature control (*2 Nos)	No		
46	Water Bath with temp. for mercury sample digestion- 20 BOD Bottles	No		
D. Analytical Instruments at Environmental Laboratories				
a) Mandatory Requirements				
1	Atomic Absorption spectrometer (AAS) - Flame, Hydride & Graphite Tube Atomizer (GTA)	No		
2	Binocular Stereo Zoom Microscope	No		
3	Bomb Calorimeter	No		
4	BTX Analyzer with BTX calibrator	No		
5	Colony counter	No		
6	Conductivity meter- 2 nos.	No		
7	Environment conditioning chamber	No		
8	Digital Burettes- 50 ml*2, 100 ml*2	No		
9	Dissolved Oxygen Meter (Bench model)	No		
10	Flame Photometer	Yes		
11	Flash Point Apparatus	No		

12	Gas Chromatograph Mass Spectrometer	No		
13	High Performance Liquid Chromatograph (HPLC)	No		
14	Inductively Coupled Plasma (ICP) Spectrometer-OES	No		
15	Ion Chromatograph Anion & Cations	No		
16	Methane and Non Methane (NMHC) Analyzer	No		
17	Microscope – 100x	No		
18	Microscope Binocular Research	No		
19	CO (NDIR based) Analyzer	No		
20	Nephelometer (Turbidity Meter)	Yes		
21	pH-Meter with combined electrode (3 point)- 2 nos.	Yes		
22	Specific ion Analyzer with ion selective electrodes	No		
23	Spectrophotometer Visible (Portable)	No		
24	TKN Analyzer semi-automatic with aluminum block digester	No		
25	UV-Vis Spectrophotometer	Yes		
26	Moisture Content Analyzer	No		
b) Optional Requirements				
1	Automatic Titration Assembly	No		
2	Carbon, Hydrogen, Nitrogen and Sulphur (CHNS) Elemental Analyzer	No		
3	EDXRF Analyzer/WDXRF Analyzer	No		
4	Fourier-transform infrared Spectrometer (FTIR)	No		
5	Flocculator (Jar testing apparatus)	No		
6	Toxic Gas Analyzer	No		
7	Organic Halogen (AOX/TOX) Analyzer	No		
8	TOC Analyzer	No		
9	High Resolution Mass Spectrometer (HRGC-HRMS)	No		
10	Inductively Coupled Plasma Mass (ICP-MS) Spectrometer	No		
11	X Ray Fluorescence (XRF) Spectrometer (Portable)	No		

Specific remarks, if any: NA* List of Instruments / Equipment for Sampling of Water, Wastewater and Soil / Hazardous Wastes Ambient Air and Source Emission monitoring are not under the jurisdiction /mandate of State Laboratories. However the information is filled up in Summary Sheet and Regulatroy division sheet

PART I: Facility available for monitoring of environmental parameters:

Parameters	Total Number of Parameters	Facility available for	Facility not available for	
A. Sample Matrix / Group of Water and Wastewater	**67**	**33**	**33**	**1**
(a) Physical Tests	8	8	0	**0**
(b) Inorganic Tests	**34**	**18**	**15**	
(i) General & Non-metallic	15	14	1	**0**
(ii) Trace Metals Tests	19	4	14	**1**
(c) Organics (General) and Trace Organics Tests	**20**	**4**	**16**	
Pesticides	15	0	15	**0**
Organochlorine Pesticides (OCPs) Tests	9	0	9	**0**
Organophosphorus Pesticides (OPPs) Tests	6	0	6	**0**
(d) Microbiological Tests	**4**	**3**	**1**	**0**
(e) Toxicological Tests	**1**	**0**	**1**	**0**
B. Sample Matrix / Group of Solid / Solid Waste	**15**	**8**	**7**	
(a) Soil / Sediment / Compost Tests	7	5	2	**0**
(b) Hazardous Waste (Liquid / Slurry / Sludge / Solid / Semi-Solid) Tests	8	3	5	**0**
C. Sample Matrix / Group of Analytes: Air	**28**	**9**	**8**	
(a) Ambient Air	12	7	5	**0**
(b) Stack Gas / Stationary Source Emission	9	0	0	**9**
(c) Noise Level	2	0	0	**2**
(d) Meteorological Monitoring	5	2	3	**0**

PART II: Details of Laboratory Infrastructure (Instruments and Equipment)

Name of Instrument / Equipments	Total Numbers	Number of Available	Number of Not Available	
Total	**148**	**16**	**61**	**71**
A. List of Instruments / Equipment for Sampling of Water, Wastewater and Soil / Hazardous Wastes	**15**	**0**	**0**	
a) Mandatory Requirements	11	0	0	**11**
b) Optional Requirements	4	0	0	**4**

			B. List of Instruments / Equipment for Sampling of Ambient Air and Source Emission monitoring	**50**	**0**	**0**	
			a) Mandatory Requirements	22	0	0	**22**
			b) Optional Requirements	28	0	0	**28**
			C. List of Equipment required for processing of Environmental Samples:	**46**	**12**	**28**	
			a) Mandatory Requirements	46	12	28	**6**
			D. Analytical Instruments at Environmental Laboratories	**37**	**4**	**33**	
			a) Mandatory Requirements	26	4	22	**0**
			b) Optional Requirements	11	0	11	**0**

Note: It is requested to please ensure that each sheet is created separately for each laboratory and rename the sheet accordingly . For e.g. Central Laboratory, Regional Laboratory etc

LABORATORY ANALYTICAL FACILITIES

Name of the Board / Committee: HP State Pollution Control Board Shimla RL Sundernagar

PART I: Facility available for monitoring of environmental parameters:

S. No.	Parameters	Facilities Available (Yes / No)	If facility is not available, Specify Timeline for addition of this parameter. (in months)	Action Taken for addition of this parameter (Specification finalized / procurement initiated / work awarded / outsourced)
A. Sample Matrix / Group of Water and Wastewater				
(a) Physical Tests				
1	Temperature	Yes		
2	Colour	No		
3	pH	Yes		
4	Turbidity	Yes		
5	Conductivity	Yes		
6	Total Solids	Yes		
7	Total Dissolved Solids (TDS)	Yes		
8	Total Suspended Solids (TSS)	Yes		
(b) Inorganic Tests				
(i) General & Non-metallic				
1	Alkalinity	Yes		
2	Chloride	Yes		
3	Cyanide	No		
4	Dissolved oxygen	Yes		
5	Nitrite nitrogen	Yes		
6	Nitrate nitrogen	Yes		
7	Ammonical nitrogen	Yes		
8	Fluoride	Yes		
9	Hardness (Total)	Yes		
10	Calcium	Yes		
11	Magnesium	Yes		
12	Phosphate	Yes		
13	Sulphate	Yes		
14	Sulphide	Yes		

15	Total Residual chlorine (TRC)	No		
(ii) Trace Metals Tests				
1	Aluminium (Al)	Yes		
2	Arsenic (As) Total	Yes		
3	Barium	Yes		
4	Boron	Yes		
5	Chromium (Cr) Hexavalent	Yes		
6	Chromium (Cr) Total	Yes		
7	Cadmium (Cd)	Yes		
8	Cobalt (Co)	Yes		
9	Copper (Cu)	Yes		
10	Iron (Fe)	Yes		
11	Lead (Pb)	Yes		
12	Manganese (Mn)	Yes		
13	Mercury (Hg)	Yes		
14	Nickel (Ni)	Yes		
15	Potassium (K)	Yes		
16	Sodium (Na)	Yes		
17	Vanadium (V)	No		
18	Zinc (Zn)	Yes		
19	Selenium (Se)	No		
(c) Organics (General) and Trace Organics Tests				
1	Biological Oxygen Demand (BOD)	Yes		
2	Chemical oxygen demand (COD)	Yes		
3	Oil & Grease	Yes		
4	Phenolic Compounds as C6H5OH	Yes		
5	Benzopyrene	No		
6	**Pesticides**			
6.a	**Organochlorine Pesticides (OCPs) Tests**			
i	Aldrin	No		
ii	Alpha Endosulphan	No		
iii	p,p'-DDT	No		
iv	Alpha-HCH	No		
v	Beta HCH	No		
vi	Beta Endosulphan	No		
vii	Gama-HCH	No		
viii	o,p'-DDT	No		
ix	p,p'-DDE	No		
6.b	**Organophosphorus Pesticides (OPPs) Tests**			
i	Malathion	No		
ii	Methyl parathion	No		
iii	Chlorpyriphos	No		

iv	Dimethoate	No		
v	Dieldrin	No		
vi	Ethion	No		
(d) Microbiological Tests				
1	Total Coliform	Yes		
2	Faecal Coliform	Yes		
3	E. Coli	No		
4	Faecal Streptococci	Yes		
(e) Toxicological Tests				
1	Bioassay method for evaluation of toxicity using fish (90% survival of fish after 96 hrs in 100% effluent)	Yes		
B. Sample Matrix / Group of Solid / Solid Waste				
(a) Soil / Sediment / Compost Tests				
1	Cation Exchange Capacity (CEC)	Yes		
2	Electrical Conductivity (EC)	Yes		
3	Organic carbon (Chemical Method)	Yes		
4	pH	Yes		
5	Soil moisture	Yes		
6	Total nitrogen	Yes		
7	Metals by digestion (As, Cd, Cr, Pb, Ni etc.)	Yes		
(b) Hazardous Waste (Liquid / Slurry / Sludge / Solid / Semi-Solid) Tests				
1	Corrosivity	No		
2	Ignitability (Flash Point)	No		
3	Loss on Drying at 1050C (% Moisture Content)	Yes		
4	Loss on Drying at 5500C (% Organic Content)	Yes		
5	pH	Yes		
6	Organic carbon/matter (Chemical Method)	Yes		
7	Calorific Value	No		
8	Toxicity Characteristics leaching procedure (TCLP) Leachate and Metals in Leachate (As,Cd,Cr, Pb, Ni)	No		
C. Sample Matrix / Group of Analytes: Air				
(a) Ambient Air				
1	Nitrogen dioxide as NO2	Yes		
2	Sulphur dioxide (SO2)	Yes		
3	Particulate matter (PM10)	Yes		
4	Particulate matter (PM2.5)	Yes		
5	Carbon Monoxide	No		
6	Ozone	Yes		
7	Benzene	No		

8	Ammonia	Yes		
9	Metals in Particulate Matter, Pb	Yes		
10	Metals in Particulate Matter, As	Yes		
11	Metals in Particulate Matter, Ni	Yes		
12	Particulate Benzo-a-Pyrene (BaP)	No		
(b) Stack Gas / Stationary Source Emission				
1	Particulate Matter	NA*		
2	Sulphur Dioxide	NA*		
3	Carbon Dioxide	NA*		
4	Carbon Monoxide (NDIR based Method)	NA*		
5	Temperature	NA*		
6	Moisture	NA*		
7	Oxygen	NA*		
8	Oxides of Nitrogen	NA*		
9	Halides (HCL/HF)	NA*		
(c) Noise Level				
1	Ambient Noise level measurement (20 to 140 dB)	NA*		
2	Source Noise Level Measurement (Industrial process, DG set- 20 to 140dB)	NA*		
(d) Meteorological Monitoring				
1	Ambient Temperature	Yes		
2	Wind direction	Yes		
3	Wind speed	Yes		
4	Relative Humidity	Yes		
5	Mixing Height	No		

Specific remarks, if any:

NA* Stack Gas / Stationary Source Emission, Nose level are not under the jurisdiction /mandate of State Laboratories. However the information is filled up in Summary Sheet and Regulatroy division sheet

PART II: Details of Laboratory Infrastructure (Instruments and Equipment)

S. No.	Name of Instrument / Equipments	Available Yes / No	If the Instrument / Equipment is not available, Specify Timeline for procurement of this instrument (in months)	Action Taken for procurement of this Instrument / Equipment (Specification finalized / procurement initiated / work awarded / outsourced)
A. List of Instruments / Equipment for Sampling of Water, Wastewater and Soil / Hazardous Wastes				
a) Mandatory Requirements				

1	Portable / Pen type pH meter / pH strip	NA*		
2	Portable Dissolved Oxygen Meter / Field Fixing using chemicals	NA*		
3	Electrical Conductivity meter pen type	NA*		
4	Flow meter / Physical flow measuring	NA*		
5	GPS / Mobile with GPS app	NA*		
6	Ice Box (2 nos.) (150 litre & 100 litre capacities)	NA*		
7	Thermometer	NA*		
8	Stainless steel bucket with nylon rope and mug	NA*		
9	Ground water level measuring device	NA*		
10	Scoop / shovel	NA*		
11	Auger / core sampler	NA*		
b) Optional Requirements				
1	Bottom Sampler / Depth sampler	NA*		
2	Chloroscope for residual chlorine	NA*		
3	Vandorn or equivalent water sampler (Automatic sampler when composite sampling to be done)	NA*		
4	Ekman Dredge	NA*		
B. List of Instruments / Equipment for Sampling of Ambient Air and Source Emission monitoring				
a) Mandatory Requirements				
1	Fine dust samplers PM2.5 (*4 Nos)	NA*		
2	Respirable Dust Sampler PM 10 (* 4 Nos)	NA*		
3	High Volume Sampler (SPM) (4 Nos)	NA*		
4	Handy Sampler with set of glass impingers (*2 Nos)	NA*		
5	Low Volume Sampler (LVS)	NA*		
6	Tedler bags different sizes	NA*		
7	Meteorological tower (All in one telescopic Mast) with sensors comprising wind speed, wind direction, ambient temp., Relative humidity, Solar radiation, rainfall etc.	NA*		
8	Nitrogen Cylinder portable	NA*		
9	Activated Charcoal tubes/ Tenex	NA*		
10	Barometer (Digital)	NA*		
11	Isokinetic Stack Monitoring Kit complete with Stack monitoring instrument panel with inclined cum vertical manometer, Cold Box, Vacuum pump, Glass assembly impingers	NA*		
12	Modified S type Stainless steel Pitot tube (Standard length) with Assembly	NA*		

13	Monoblock type, rotary design vacuum pump	NA*					
14	Orsat Apparatus	NA*					
15	Source emission monitoring Impingers train set with spare impingers 100 ml & 225 ml capacity	NA*					
16	Stainless steel heated Sampling Probes with thimble holders short and long	NA*					
17	Flue Gas analyzer	NA*					
18	Thermometer/ Thermocouple	NA*					
19	Calibrator for Noise Meters	NA*					
20	Digital Sound level (Noise) Metres	NA*					
21	Portable TOC Analyzer for emission monitoring.	NA*					
22	Polyurethane Foam PUF Sampler	NA*					
b) Optional Requirements							
1	Anemometer	NA*					
2	Weather Monitoring system	NA*					
3	Wind speed/wind direction monitor	NA*					
4	Continuous Ambient Air Monitoring System, Fixed	NA*					
5	Continuous PM10 Analyzer	NA*					
6	Continuous Ambient Air Monitoring System, Mobile	NA*					
7	Continuous PM2.5 analyzer	NA*					
8	Ambient Nitrogen Oxides (NO-NO2-NOx Analyzer	NA*					
9	Ambient Ozone Analyzer	NA*					
10	Ambient BTEX Analyzer	NA*					
11	Multipoint Gas Calibration system	NA*					
12	Ambient Sulphur Dioxide analyzer	NA*					
13	Ambient Carbon Monoxide & Carbon dioxide analyzer	NA*					
14	Total Hydrocarbon analyzer	NA*					
15	Ambient Ammonia analyzer	NA*					
16	Zero Gas Generator	NA*					
17	Synthetic Air Cylinder	NA*					
18	Calibration Gas Cylinders, SO2, NO, CO, NH3B ,enzene and Toluene One each with stainless steel Regulators	NA*					
19	Continuous emission monitoring equipment	NA*					
20	19 inch Rack mounting system for air analyzers	NA*					
21	Dry Gas Meter	NA*					
22	Diesel Exhaust analyzer	NA*					

23	Exhaust CO/HC analyzer with Sampling Probe	NA*		
24	Automated Noise Monitoring System	NA*		
25	Integrating Sound level meter	NA*		
26	Continuous PM10& PM2.5 Monitoring Analyzer TEOM system	NA*		
27	Top loading orifice kit for calibration of HVS	NA*		
28	Permeation tubes (SO2, NO-NO2-NOx, NH3, BTX)	NA*		
C. List of Equipment required for processing of Environmental Samples:				
a) Mandatory Requirements				
1	Accelerated Solvent Extraction (ASE) System	NO		
2	Ammonia distillation assembly/TKN Analyzer	Yes		
3	Analytical Balance 4/5 digit & 6 digit (Digital)	Yes		
4	Aquarium for Toxicity bioassay test with complete accessories (*4 Nos)	Yes		
5	Autoclave (*2 Nos)	Yes		
6	Bacteriological Incubators Stainless steel (*2 Nos)	Yes		
7	Bio safety cabinets	No		
8	BOD Incubators (2 nos.)	Yes		
9	Centrifuge	No		
10	COD Digestion heated Blocks (2) with capacity 16 nos. or more	Yes		
11	Cyanide Distillation Assembly (3)	No		
12	Deep Freezer- Capacity 500 litre	Yes		
13	Laboratory Ball Mill Grinder	No		
14	Laboratory Grinder	Yes		
15	Laminar Flow bench for Microbiological analysis	Yes		
16	Magnetic Stirrer with heating system (*2 Nos)	Yes		
17	Mechanical Shaker	No		
18	Membrane Filtration assembly with vacuum pump (2 nos.)	Yes		
19	Microbial culture refrigerator	Yes		
20	Microwave Digester with 16 vessels/ Hot Plate	Yes		
21	Muffle Furnace (*1 Nos), Range 1200 C	Yes		
22	Phenol distillation assembly (3)	Yes		
23	Plate counter, Manual/Automatic	No		
24	Digestion Chambers/ Fume hood	Yes		

25	Digital Thermometer & Humidity meter- All lab area	Yes					
26	Dispensers (Various capacities) up to 5, 10, 25 & 50 ml	Yes					
27	Filtration Assembly with vacuum pump	Yes					
28	Fluoride Distillation Assembly (3)	No					
29	Arsenic / Fluoride Glass Distillation assemblies	No					
30	Glass Double Distillation Assembly /Water Purification System	Yes					
31	Heating mantles (2 nos.)	Yes					
32	Hot plates (small, Medium and Large) (*2 nos.)	Yes					
33	Thermo Hygrometer	Yes					
34	Imhoff Cone	No					
35	Top loading Precision Digital Balance (minimum detection 0.001mg/0.01 mg) with anti-vibration facility- 3 nos. i.e 4/5 Digit (2 nos), - 6 Digit (1 no)	Yes					
36	Refrigerators Big Size 300 litres or more, double door- 2 nos.	Yes					
37	Rotary Evaporator (Buchi type) with water recirculating chiller	No					
38	Separating funnel shaker	No					
39	Soxhlet Apparatus	No					
40	Solid Phase Extraction (SPE) /SPME Extraction system	No					
41	Thermometer (Alcohol)	No					
42	Dry & wet bulb Thermometer	No					
43	Toxicity characteristic leaching procedure (TCLP) Extractors (Zero head and Bottle)	No					
44	Ultra sonic water bath- Capacity 3 litre	No					
45	Water Bath with temperature control (*2 Nos)	Yes					
46	Water Bath with temp. for mercury sample digestion- 20 BOD Bottles	No					
D. Analytical Instruments at Environmental Laboratories							
a) Mandatory Requirements							
1	Atomic Absorption spectrometer (AAS) - Flame, Hydride & Graphite Tube Atomizer (GTA)	Yes					
2	Binocular Stereo Zoom Microscope	No					
3	Bomb Calorimeter	No					
4	BTX Analyzer with BTX calibrator	No					
5	Colony counter	No					

6	Conductivity meter- 2 nos.	Yes		
7	Environment conditioning chamber	No		
8	Digital Burettes- 50 ml*2, 100 ml*2	No		
9	Dissolved Oxygen Meter (Bench model)	No		
10	Flame Photometer	Yes		
11	Flash Point Apparatus	No		
12	Gas Chromatograph Mass Spectrometer	No		
13	High Performance Liquid Chromatograph (HPLC)	No		
14	Inductively Coupled Plasma (ICP) Spectrometer-OES	No		
15	Ion Chromatograph Anion & Cations	No		
16	Methane and Non Methane (NMHC) Analyzer	No		
17	Microscope – 100x	No		
18	Microscope Binocular Research	No		
19	CO (NDIR based) Analyzer	No		
20	Nephelometer (Turbidity Meter)	Yes		
21	pH-Meter with combined electrode (3 point)- 2 nos.	Yes		
22	Specific ion Analyzer with ion selective electrodes	No		
23	Spectrophotometer Visible (Portable)	Yes		
24	TKN Analyzer semi-automatic with aluminum block digester	Yes		
25	UV-Vis Spectrophotometer	Yes		
26	Moisture Content Analyzer	No		
b) Optional Requirements				
1	Automatic Titration Assembly	No		
2	Carbon, Hydrogen, Nitrogen and Sulphur (CHNS) Elemental Analyzer	No		
3	EDXRF Analyzer/WDXRF Analyzer	No		
4	Fourier-transform infrared Spectrometer (FTIR)	No		
5	Flocculator (Jar testing apparatus)	No		
6	Toxic Gas Analyzer	No		
7	Organic Halogen (AOX/TOX) Analyzer	No		
8	TOC Analyzer	No		
9	High Resolution Mass Spectrometer (HRGC-HRMS)	No		
10	Inductively Coupled Plasma Mass (ICP-MS) Spectrometer	No		
11	X Ray Fluorescence (XRF) Spectrometer (Portable)	No		

PART I: Facility available for monitoring of environmental parameters:

Parameters	Total Number of Parameters	Facility available for	Facility not available for	
A. Sample Matrix / Group of Water and Wastewater	**67**	**45**	**22**	**0**
(a) Physical Tests	8	7	1	**0**
(b) Inorganic Tests	**34**	**30**	**4**	
(i) General & Non-metallic	15	13	2	**0**
(ii) Trace Metals Tests	19	17	2	**0**
(c) Organics (General) and Trace Organics Tests	**20**	**4**	**16**	
Pesticides	15	0	15	**0**
Organochlorine Pesticides (OCPs) Tests	9	0	9	**0**
Organophosphorus Pesticides (OPPs) Tests	6	0	6	**0**
(d) Microbiological Tests	**4**	**3**	**1**	**0**
(e) Toxicological Tests	**1**	**1**	**0**	**0**
B. Sample Matrix / Group of Solid / Solid Waste	**15**	**11**	**4**	
(a) Soil / Sediment / Compost Tests	7	7	0	**0**
(b) Hazardous Waste (Liquid / Slurry / Sludge / Solid / Semi-Solid) Tests	8	4	4	**0**
C. Sample Matrix / Group of Analytes: Air	**28**	**13**	**4**	
(a) Ambient Air	12	9	3	**0**
(b) Stack Gas / Stationary Source Emission	9	0	0	**9**
(c) Noise Level	2	0	0	**2**
(d) Meteorological Monitoring	5	4	1	**0**

PART II: Details of Laboratory Infrastructure (Instruments and Equipment)

Name of Instrument / Equipments	Total Numbers	Number of Available	Number of Not Available	
Total	**148**	**35**	**48**	**65**
A. List of Instruments / Equipment for Sampling of Water, Wastewater and Soil / Hazardous Wastes	**15**	**0**	**0**	
a) Mandatory Requirements	11	0	0	**11**
b) Optional Requirements	4	0	0	**4**

				B. List of Instruments / Equipment for Sampling of Ambient Air and Source Emission monitoring	**50**	**0**	**0**	
				a) Mandatory Requirements	22	0	0	**22**
				b) Optional Requirements	28	0	0	**28**
				C. List of Equipment required for processing of Environmental Samples:	**46**	**27**	**19**	
				a) Mandatory Requirements	46	27	19	**0**
				D. Analytical Instruments at Environmental Laboratories	**37**	**8**	**29**	
				a) Mandatory Requirements	26	8	18	**0**
				b) Optional Requirements	11	0	11	**0**

PART III: DETAILS OF LABORATORIES ESTABLISHED UNDER THE WATER (P & CP) ACT, 1974

Laboratory established by the Board, as per Section 17 (2) of Water Act – Nos.				Laboratories / Institutes specified by State Govt., as State Water Laboratory as per Section 52 (1) of Water Act (other than those set up by Board) - Nos								NABL Accreditation			EPA Recognition		
No. of Laboratories established / recognised	No. of Laboratories (out of those given in column No. (1)) notified in Official Gazette	No. of remaining Laboratories Planned for Notification (out of those laboratories given in column No.(1)).	Time line required for notification of Laboratories given in column No. (3) (in months)	No. of Laboratories established / specified		No. of Laboratories (out of those given in column No. (5 & 6)) notified in Official Gazette		No. of remaining Laboratories Planned for Notification (out of those laboratories given in column No. (5 & 6)).		Time line required for notification of Laboratories given in column No. (9 & 10) (in months)		No. of Board's Laboratories 17 (2)	No. of State Water Laboratories 52(1)		No. of Board's Laboratories 17 (2)	No. of State Water Laboratories 52(1)	
				Govt.	Pvt.	Govt.	Pvt.	Govt.	Pvt.	Govt.	Pvt.		Govt.	Pvt.		Govt.	Pvt.
-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12	-13	-14	-15	-16	-17	-18
6	5	1	3 months	1		1						5	1		0		

Note: The list of the laboratory may be attached separately (Board, State Govt. and Private)

Specific remarks, if any:

PART IV: DETAILS OF LABORATORIES ESTABLISHED UNDER THE AIR (P & CP) ACT, 1981

Laboratory established by the Board, as per Section 17 (2) of Air Act – Nos.				Laboratories / Institutes specified by State Govt., as State Air Laboratory as per Section 28 (1) of Ait Act (other than those set up by Board) - Nos								NABL Accreditation			EPA Recognition		
No. of Laboratories established / recognised	No. of Laboratories (out of those given in column No. (1)) notified in Official Gazette	No. of remaining Laboratories Planned for Notification (out of those laboratories given in column No.(1)).	Time line required for notification of Laboratories given in column No. (3) (in months)	No. of Laboratories established / specified		No. of Laboratories (out of those given in column No. (5 & 6)) notified in Official Gazette		No. of remaining Laboratories Planned for Notification (out of those laboratories given in column No. (5 & 6)).		Time line required for notification of Laboratories given in column No. (9 & 10) (in months)		No. of Board's Laboratories 17 (2)	No. of State Water Laboratories 28(1)		No. of Board's Laboratories 17 (2)	No. of State Water Laboratories 28(1)	
				Govt.	Pvt.	Govt.	Pvt.	Govt.	Pvt.	Govt.	Pvt.		Govt.	Pvt.		Govt.	Pvt.
-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12	-13	-14	-15	-16	-17	-18
6	5	1	3 months	1		1				--		5	1		0		

Note: The list of the laboratory may be attached separately (Board, State Govt. and Private)

Specific remarks, if any:

PART V: DETAILS OF LABORATORIES PARTICIPATED ON ANALYTICAL QUALITY CONTROL AND QUALITY ASSURANCE CONDUCTED BY CPCB IN RESPECT OF WATER QUALITY PARAMETERS

S. No.	Name of the Laboratory with address	No. of Parameters in AQC Exercise				Number of Parameters Attempted				% Parameters Successful			
		33rd Exercise	34th Exercise	35th Exercise	37th Exercise	33rd Exercise	34th Exercise	35th Exercise	37th Exercise	33rd Exercise	34th Exercise	35th Exercise	37th Exercise
1	**Central Laboratory, Parwanoo**	9	11		10 (Heavy s) & 11 (Physio chemical parameters)	9	10		10 (Heavy s) & 11 (Physio chemical parameters)	61.11	50		52.6% (Heavy s) & 90.9% (Physio chemical parameters)
2	**Regional Laboratory, Dharamshala**	9	11		21	9	10		21	61.11%	40.91%		73.70%
3	**Regional Laboratory, Paonta Sahib**	9	11		10 (Heavy s) & 11 (Physio chemical parameters)	8	11		8 (Heavy s) & 11 (Physio chemical parameters)	83.33	95.45		93.75% (Heavy s) & 100% (Physio chemical parameters)
4	**HPSPCB Regional Laboratory, Shimla.**	18			10 (Heavy s) & 11 (Physio chemical parameters)	18			20	77.78%			21.05% (Heavy Metals) & 100% (Physio chemical parameters)
5	**RL Sundernagar**	9	11		21 (11 Nos General and Physico-Chemical parameters & 10 Nos for Metals)	9	11		21	66.67%	90.91%		100% (General and Physico-Chemical parameters) & 57.9 % (Metals)
6	**RL Una**	ESTD in December-2022				ESTD in December-2022				ESTD in December-2022			

Note: 33rd Exercise (Metals) held in 2020-2021,
34th Exercise (General and Physico-Chemical parameters) held in 2021-2022
35th Exercise (Pesticides) held in 2023
36th Exercise (General and Physico-Chemical parameters) held in 2023-2024

Provide details of each Laboratories (Central, Regional/Zonal, District) in separate Row

Specific remarks, if any:

PART VI: DETAILS OF LABORATORIES PARTICIPATED ON PROFICIENCY TESTING (PT) PERFORMANCE
(Information to be given for last 3 years)

S. No.	Name of Laboratory with address	Year of PT participation	PT Sample Provider (Name and Address)	Number of Parameters in Accreditation Scope	Number of Parameters for which Laboratory participated in PT exercise	Number of Parameter with Satisfactory Results
1	**Central Laboratory, Parwanoo**	2022	Green Economy Initiative Pvt. Ltd. Mohali, Punjab	9	9	7
		2023	Green Economy Initiative Pvt. Ltd. Mohali, Punjab	9	9	9
		2024	Green Economy Initiative Pvt. Ltd. Mohali, Punjab	10	10	10
		2025	Green Economy Initiative Pvt. Ltd. Mohali, Punjab	30	27	26
2	**Regional Laboratory, Dharamshala**	2022	_	_	_	_
		2023	_	_	_	_
		2024	M/S Green Economy Initiatives Private Limited,Mohali	20	20	20
		2025 (March)	M/S Green Economy Initiatives Private Limited,Mohali	9	9	9
		2025 (July)	M/S Green Economy Initiatives Private Limited,Mohali	7	6	Results awaited
3	**Regional Laboratory, Paonta Sahib**	2022	M/s Green Economy Initiative Pvt. Ltd., Mohali	--	8	7
		2023		21	17	17
		2024		21	13	Result Awaited
		2025	M/s Green Economy Initiative Pvt. Ltd., Mohali	27	19	19
4	**HPSPCB Regional Laboratory, Shimla.**	2022				
		2023	Green Economy Initiatives Pvt Ltd.	26	25	25
		2024	Green Economy Initiatives Pvt Ltd.	26	25	25
		2025	Green Economy Initiatives Private Limited	1	1	1
5	**RL, Sundernagar.**	2022	-	-	-	-
		2023	-	-	-	-
		2024	Green Economy Initiatives Private Limited, 215 Silver City Zirakpur, Distt. Mohali, Punjab- 140603	34	29	29

		2025	Green Economy Initiatives Private Limited, 215 Silver City Zirakpur, Distt. Mohali, Punjab- 140604	9	25	24
6	**RL,UNA**	2022	ESTD in December-2022			
		2023				
		2024	GREEN ECONOMY INITIATIVES PRIVATE LIMITED, Zirakpur, District -Mohali, Punjab.	10	10	10
		2025	GREEN ECONOMY INITIATIVES PRIVATE LIMITED, Zirakpur, District -Mohali, Punjab.	17	16	9 & results awaited for 7 parameters

Note: Provide details of each Laboratory (Central, Regional/Zonal, District) in separate Row

Specific remarks, if any: